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U.S. Department of the Interior  
Bureau of Land Management  
Rawlins District Office

Great Divide Resource Area

June 1995



# FINAL

## Laramie Peak Big Horn Sheep Habitat Management Plan



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U.S. DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

U.S. Department of the Interior  
Bureau of Land Management  
Washington, D.C. 20250

June 1985

# Las Animas Fork Big Horn Sheep Habitat Management Plan



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The Bureau of Land Management is responsible for the balanced management of the public lands and resources and their various values so that they are considered in a combination that will best serve the needs of the American people. Management is based upon the principles of multiple use and sustained yield; a combination of uses that take into account the long term needs of future generations for renewable and nonrenewable resources. These resources include recreation, range, timber, minerals, watershed, fish and wildlife, wilderness and natural, scenic, scientific and cultural values.

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UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
Wyoming State Office



Administrative Determination (AD) Documentation  
(Form 1-91)

PART I: PROJECT DESCRIPTION

Blank Sheet \_\_\_\_\_

Proposed Action Title/Type \_\_\_\_\_

Location of Proposed Action \_\_\_\_\_

Description of Proposed Action \_\_\_\_\_

Administrative Determination (AD) \_\_\_\_\_

Administrative Determination (AD) \_\_\_\_\_

Administrative Determination (AD) \_\_\_\_\_

PART II: PLAN CONFORMANCE REVIEW

This proposed action is subject to the following laws and regulations:

Name of Plan \_\_\_\_\_

The proposed action has been reviewed for conformance with the plan(s) \_\_\_\_\_

Comments \_\_\_\_\_

Comments \_\_\_\_\_

PART III: NEPA REVIEW

Existing NEPA Review: This proposal is addressed under the following BLM NEPA Review:

Name and Number of NEPA Review \_\_\_\_\_

The BLMAD has been reviewed against the following effects to determine if it allows the proposed action:

1. The proposed action is a BLMAD or meeting the same as the other actions described and analyzed in the existing document.
2. A reasonable range of alternatives was analyzed in the existing document.
3. There has been no significant change in circumstances or significant new information pertinent to the proposed action.
4. The monitoring, analysis, and/or management plan(s) used in the proposed action.
5. The NEPA and related impacts of the proposed action(s) are significant or different than those conducted in the existing document.
6. The proposed action would not change or modify a principle of cumulative impacts.
7. Public involvement in the previous analysis provides appropriate coverage for the proposed action.

Effective NEPA review: This NEPA review of all proposed actions is appropriate to the review.

Comments \_\_\_\_\_

Comments \_\_\_\_\_

PART IV: DECISION

I have reviewed this plan, conformance and NEPA compliance record and have determined that the proposed project is in conformance with the approved NEPA review and that no further action is required in NEPA. It is my decision to recommend the project as described. The following comments are attached:

Comments \_\_\_\_\_

Comments \_\_\_\_\_

Comments \_\_\_\_\_

Comments \_\_\_\_\_

Comments \_\_\_\_\_

June 1995

## USE OF ADMINISTRATIVE DETERMINATION FORM

**Purpose of the Administrative Determination (AD) Process.** Is to assure that a qualified proposed action meets the requirements of NEPA, while reducing documentation. The AD process streamlines the NEPA evaluation and documentation procedures by relying upon existing, satisfactory documents to provide an efficient, but recoverable product. The AD process involves using existing EAs and EISs for new proposed actions in those situations where existing documents sufficiently address a new proposal and its potential impacts. This includes cumulative impacts!

### PART I IDENTIFY:

In order for a manager to make this determination, the first step is to fully describe the proposal/project.

### PART II PLAN CONFORMANCE:

The next step is to determine whether or not the action/proposal/etc. is in conformance with the LUP.

### PART III NEPA REVIEW/DETERMINATION:

The next step in the AD process involves:

1. **DETERMINING**, what if, any, relevant analyses related to the proposed action have been prepared, whether or not the analyses are adequate, who prepared or cooperated in the preparation of the analyses, and if any of the analyses fully cover the new proposed action. Documents that may be relevant include, but are not limited to MFPs/RMPs, or the following: - EISs associated with BLM resource management plans; - EISs or EAs associated with BLM plan amendments; - EISs or EAs on BLM programmatic actions; - EISs or EAs associated with BLM activity or project plans; - EISs or EAs prepared by other agencies, particularly those on which BLM was formally a cooperating agency. (Where BLM was not a cooperating agency, an adoption process must be followed.)
2. **CONDUCTING THE ANALYSIS:** Existing relevant EAs and EISs are reviewed against (at a minimum) the seven criteria (NEPA Handbook, pp. III-1 and III-2): found in PART II of this form.
3. **CONFIRMATION:**
  - If all seven criteria are met, proceed with AD documentation.
  - If one or more of the seven criteria are not met, the AD documentation process is not appropriate. You must proceed with further screening to determine the appropriate documentation process to follow.

### PART IV DOCUMENTATION/DECISION:

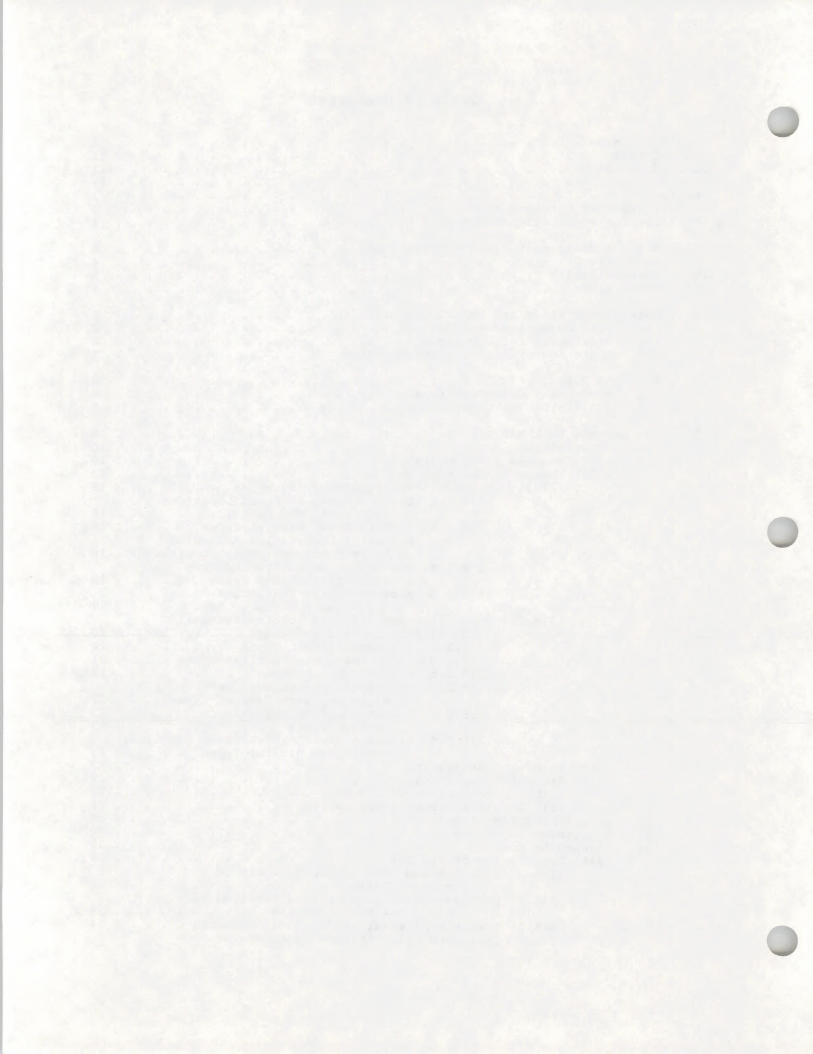
Two elements of documentation are involved:

1. Documenting the determination that the AD process is appropriate, and
2. Documenting the decision on the proposed action.



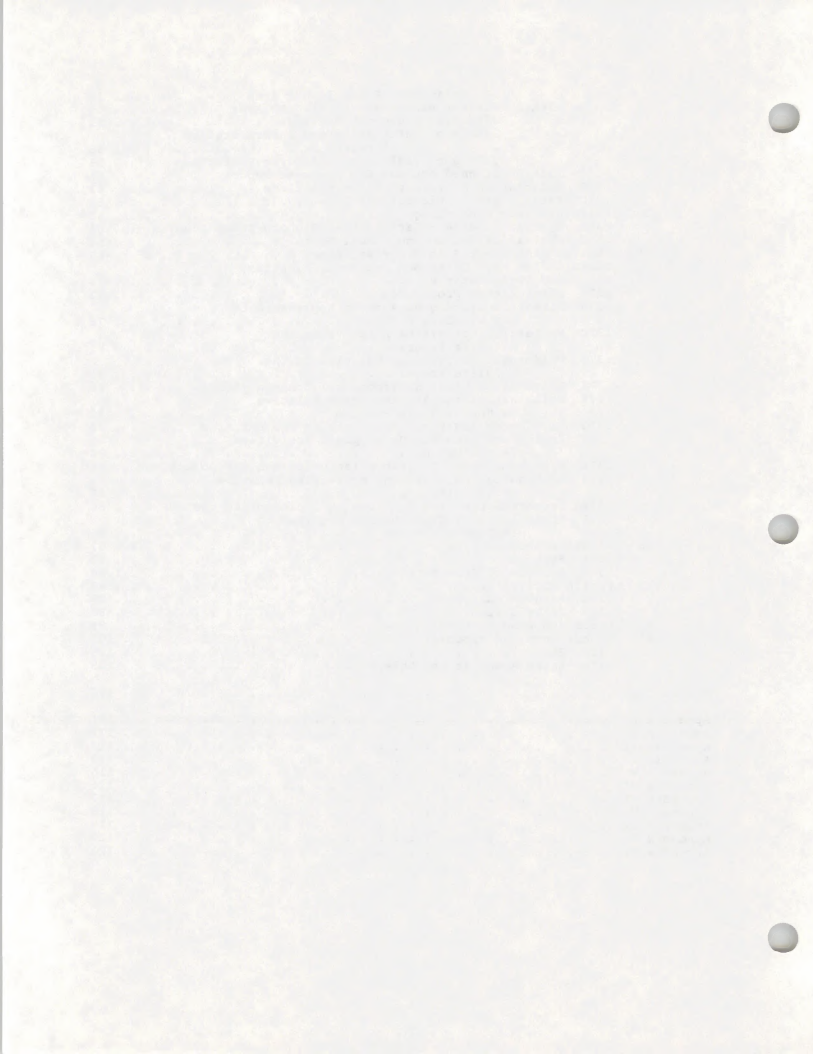
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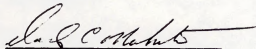
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Habitat Management Plan

Bureau of Land Management  
U.S. Forest Service  
Wyoming Game and Fish Department

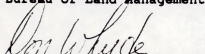
Prepared By  
Mary J. Read  
Wildlife Biologist  
Great Divide Resource Area  
Rawlins District, BLM

HMP No. T-34

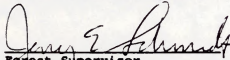
Approved By:

  
District Manager  
Rawlins District Office  
Bureau of Land Management


Oct 17 1994  
Date

  
District Manager  
Casper District Office  
Bureau of Land Management

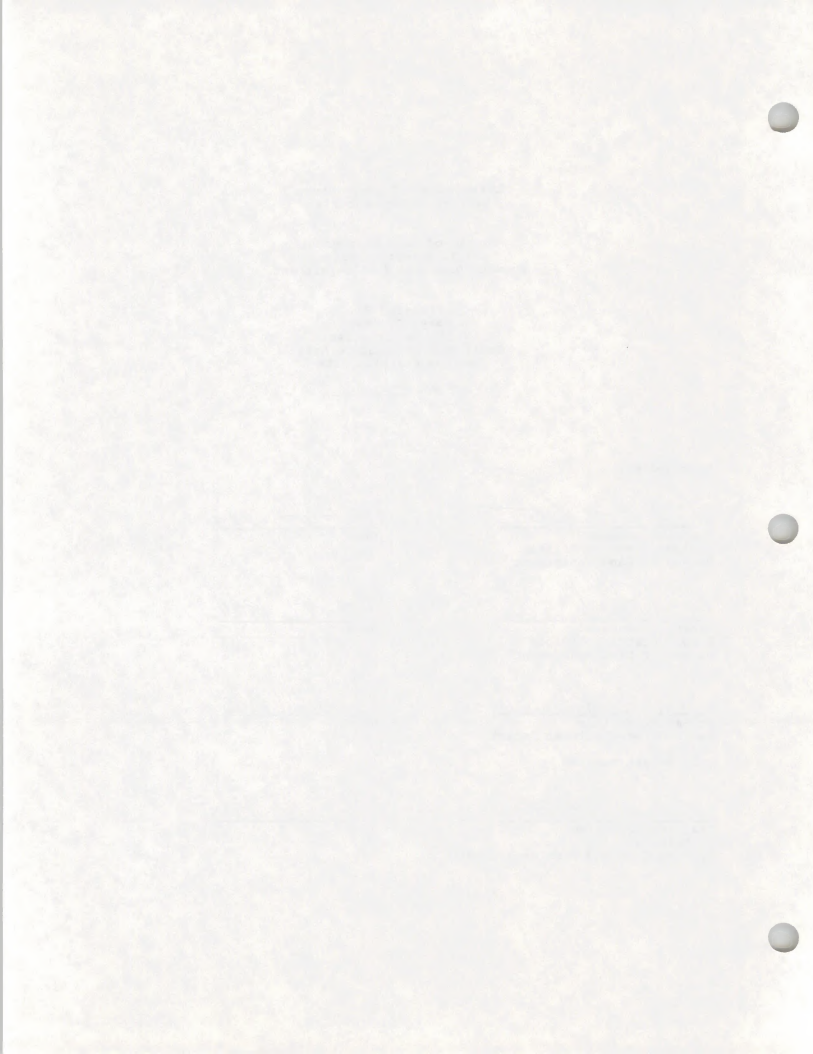
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Forest Supervisor  
Medicine Bow National Forest  
Region 2  
U.S. Forest Service

June 29, 1995  
Date

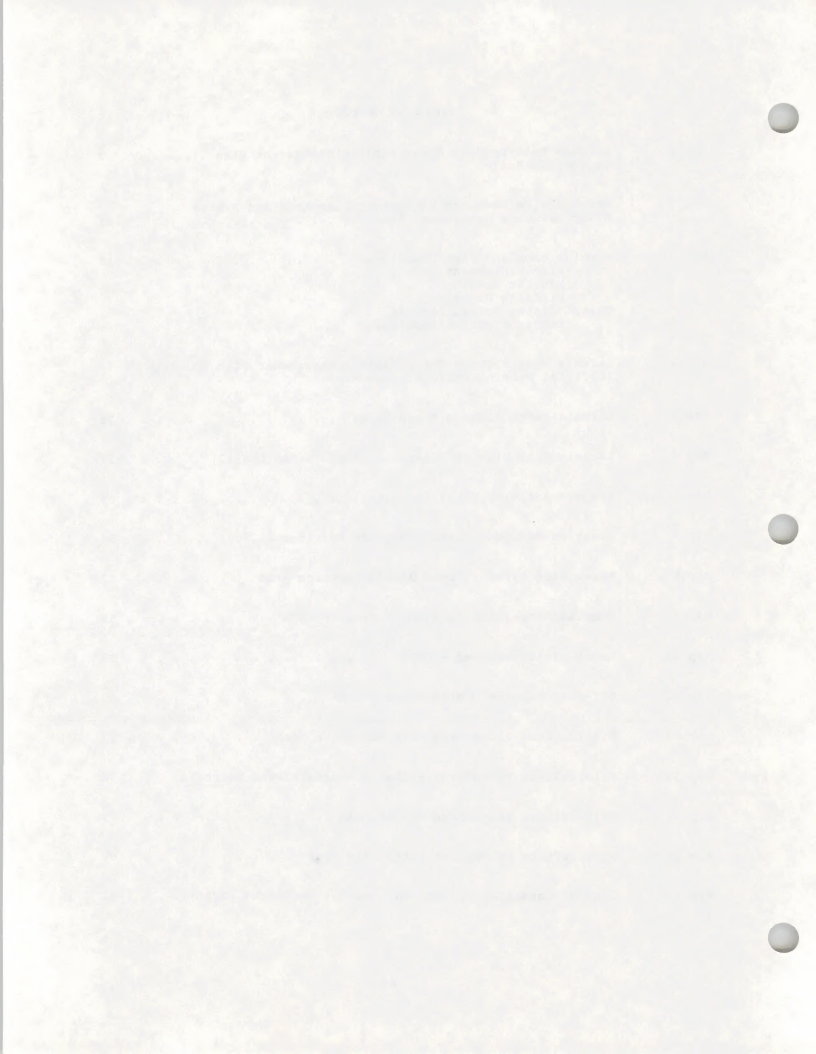
  
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District 5  
Wyoming Game and Fish Department

May - 18, 1995  
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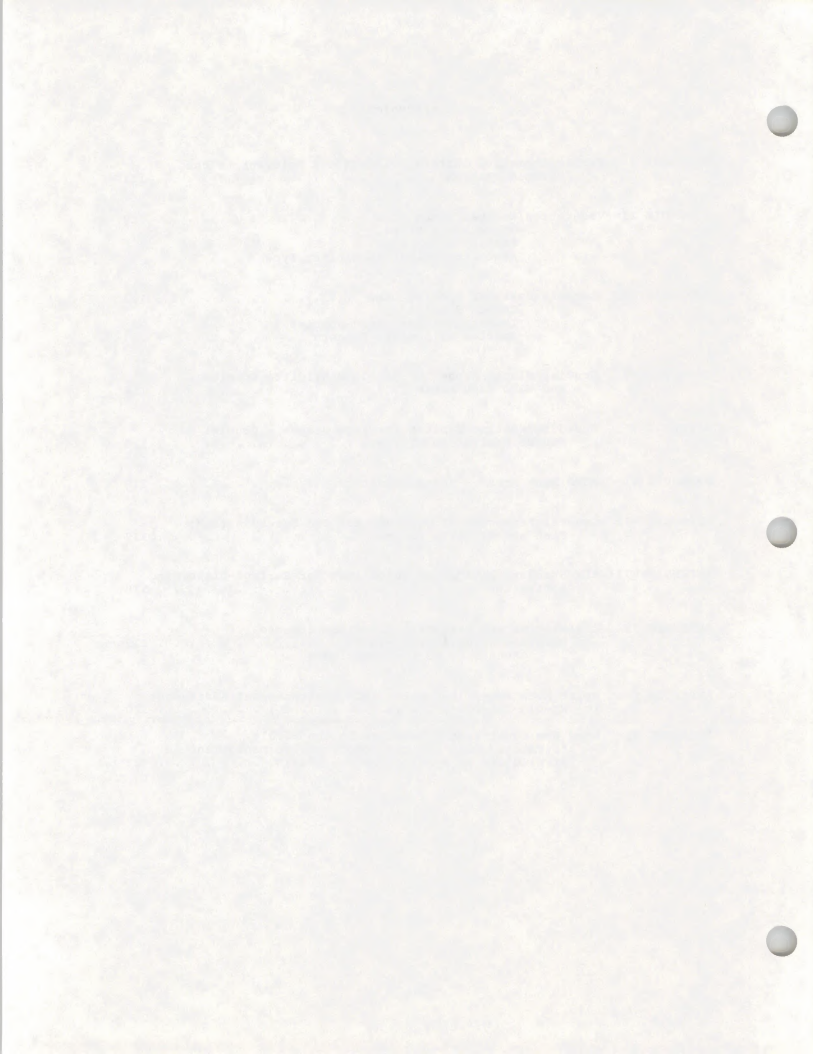
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## APPENDICES

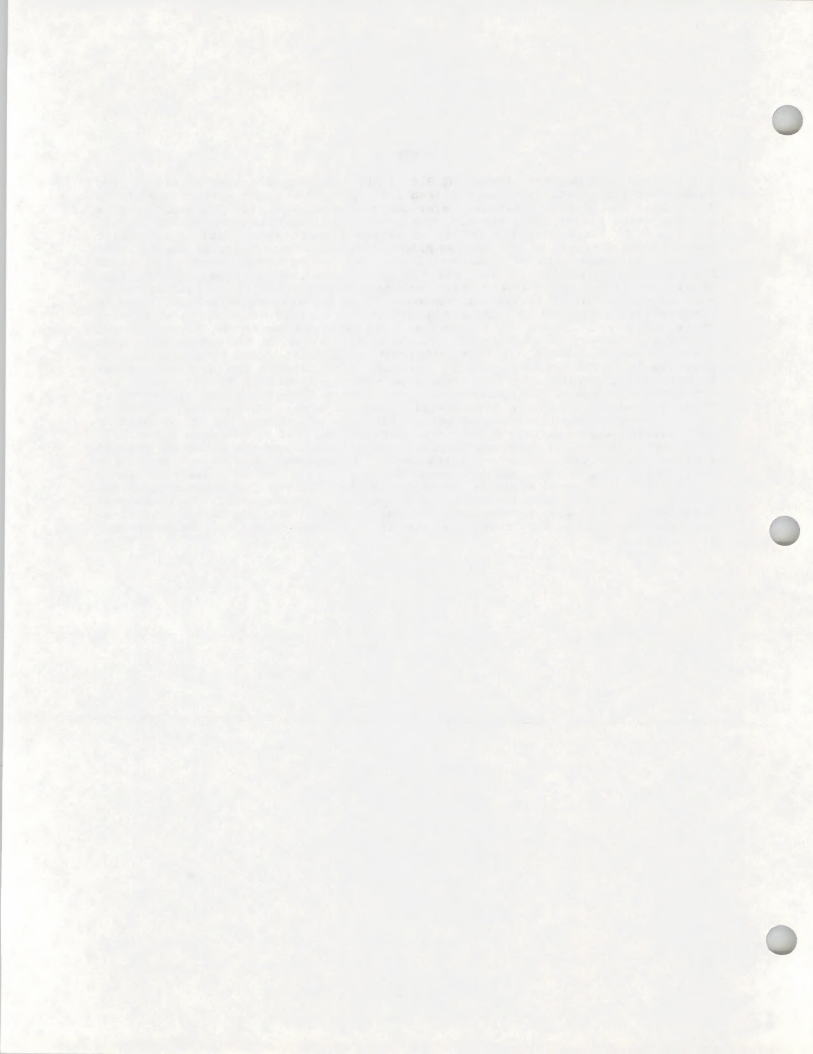
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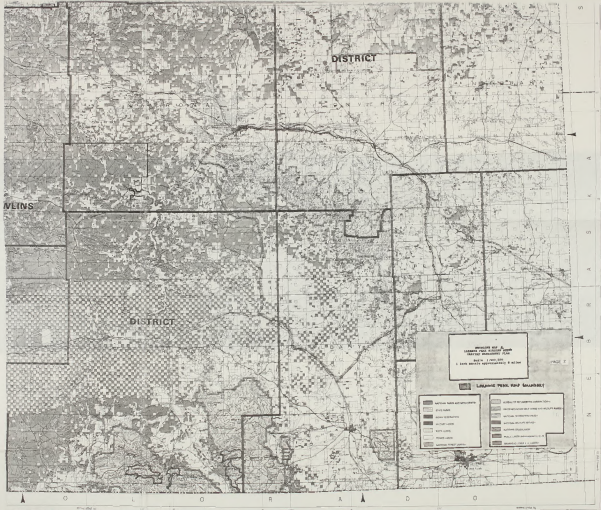




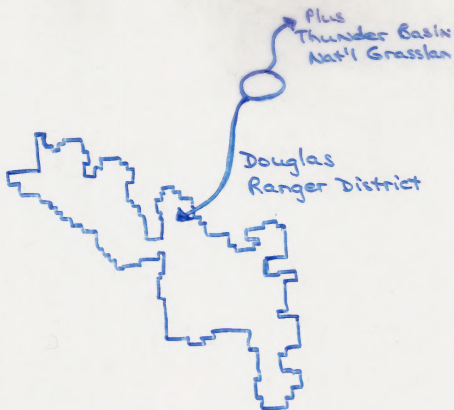
#### ABSTRACT

The Laramie Peak Habitat Management Plan (HMP) is a comprehensive Bureau of Land Management (BLM) activity plan prepared and implemented under authority of Title II, Public Law 93-452, otherwise referred to as the Sikes Act. This document is a cooperative effort among the BLM, the Wyoming Game and Fish Department (WGFD), and the U.S. Forest Service (USFS) to manage bighorn sheep habitat on public lands in and adjacent to the Douglas Ranger District of the Medicine Bow National Forest. Although this is a cooperative effort, it has been prepared by a BLM Wildlife Biologist and follows the BLM Manual 6780, Habitat Management Plan, therefore, it incorporates and tiers from many Bureau policies and land use plans that address wildlife issues and concerns. This HMP area is relatively large in geographical scope and is located throughout the Laramie Range north of Wyoming State Highway 34, east of Wyoming Highway 487 and south to south-west of Interstate Highway 25 (R. 68-78W., T. 19-33 N.). This is the entire WGFD Hunt Area 19, which yields to less difficult management both economically and politically. The primary goal of the HMP is to improve the distribution of bighorn sheep populations and associated genetic diversity by increasing and improving the amount and quality of open, secure foraging areas (adjacent to water and escape cover) in site-specific habitat areas. The primary objective is to increase the bighorn sheep population from 173 animals to 500 animals by manipulating approximately 9,000 total acres of habitat by the year 2009-2010. There are fifteen (15) proposed habitat sites that will use the following planned actions, collectively or in a combination of, to implement the objectives of the HMP: prescribed burns, small commercial logging practices, assorted fence modifications, diverse riparian improvements that include in-stream structures, fencing, plantings, and reservoir developments. Site-specific Environmental Assessments (EAs) will be completed for each proposed site throughout the 10-15 year time span of the HMP, therefore, specific planned actions will be determined at that time.









U.S. Forest Service

Ranger District Boundaries

Laramie Ranger District

Hayden Ranger District

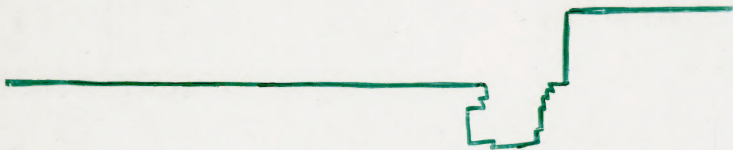
Douglas Ranger District

Brush Creek Ranger District





Habitat Branch  
Region 1



Habitat Branch  
Region 3

Wyoming Game and Fish  
Habitat Branch  
Region 1  
Region 3



Fish Management Area 55



Wyoming Game and Fish  
Fish Management Area  
Area 55  
Area 50









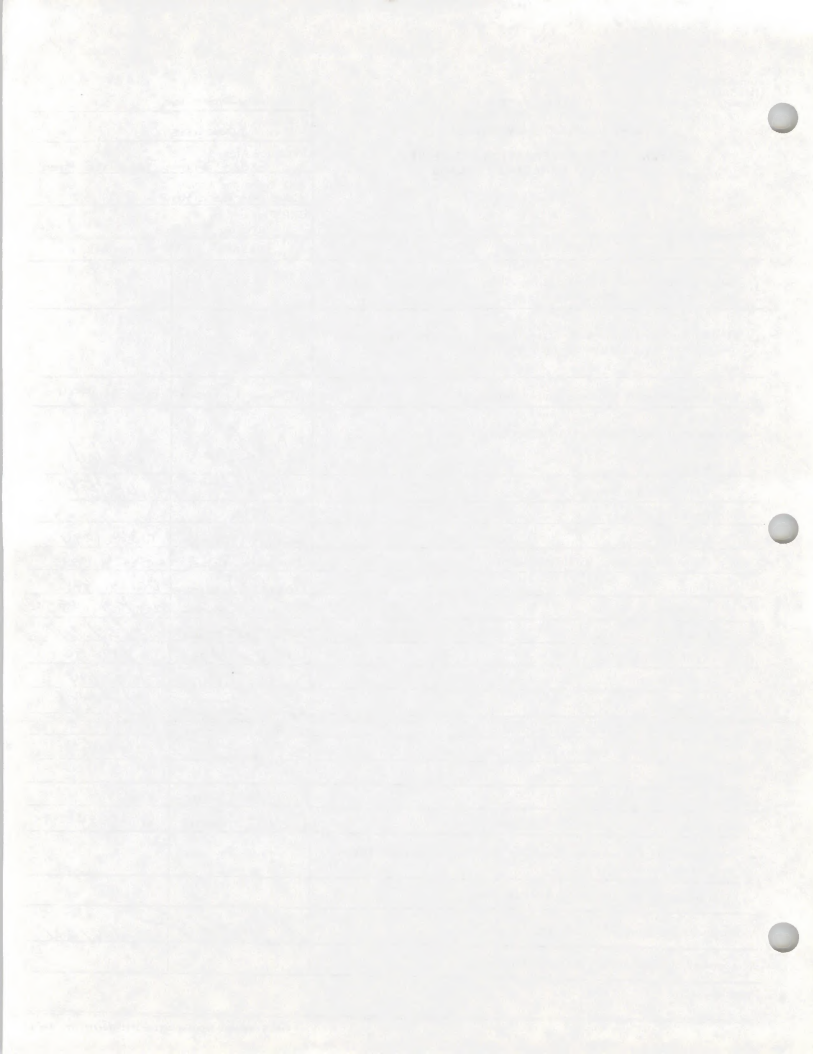
UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

CHECKLIST FOR PREPARATION AND REVIEW  
OF HABITAT MANAGEMENT PLANS

State Wyoming  
District Rawlins  
Resource Area Great Divide Resource Area  
HMP Name and Number Laramie Peak HMP - T-34  
HMP Prepared by Mary J. Read

REVIEW CHECKLIST	SURNAME	DATE
1. Master Memorandum of Understanding, Sikes Act Agreement and/or Supplemental with State Agency.		
2. Preliminary meeting(s) with State Agency (or other appropriate cooperators) to jointly discuss HMP objectives.		
3. Endangered Species Act Compliance completed by	<u>Mary J. Read</u>	<u>Oct. 4, 1994</u>
4. Review by District/Resource Area Specialists		
Range	<u>CAF</u>	<u>10/5/94</u>
Wild Horse and Burro	<u>CAF</u>	<u>10/5/94</u>
Hydrologist	<u>N/A</u>	
Forestry	<u>Timothy B. Blum</u>	<u>Oct. 4, 1994</u>
Fisheries/Botanist/Wildlife Biologist	<u>Mary J. Read</u>	<u>Oct. 4, 1994</u>
Lands	<u>Beverly Deggins</u>	<u>Oct. 4, 1994</u>
Minerals	<u>Mark P. Pugh</u>	<u>Oct 5, 1994</u>
Recreation	<u>Bill Motter</u>	<u>10/5/94</u>
Wilderness/ACEC	<u>Bill Motter</u>	<u>10/5/94</u>
Cultural	<u>Sandra Shellen</u>	<u>10/5/94</u>
Visual	<u>Bill Motter</u>	<u>10/5/94</u>
Environmental Coordinator (reviews EAs)	<u>Timothy B. Blum</u>	<u>10/5/94</u>
Support (Chief of Operations/Fire Management)	<u>S. J. Gagnier</u>	<u>10/5/94</u>
Others		
5. Reviewed by Area Manager	<u>Kathleen A. Wanner</u>	<u>10/14/94</u>
6. Reviewed by Chief of Resource Management	<u>Walter E. George</u>	<u>10.18.94</u>
7. Draft HMP and EA reviewed by State Agency authorized officer (or other cooperators).		
8. Final review (if appropriate) by State Director		
9. Reviewed and approved by District Manager	<u>M. J. Read</u>	<u>10/18/94</u>
10. Approved by State Agency authorized officer		

Remarks



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

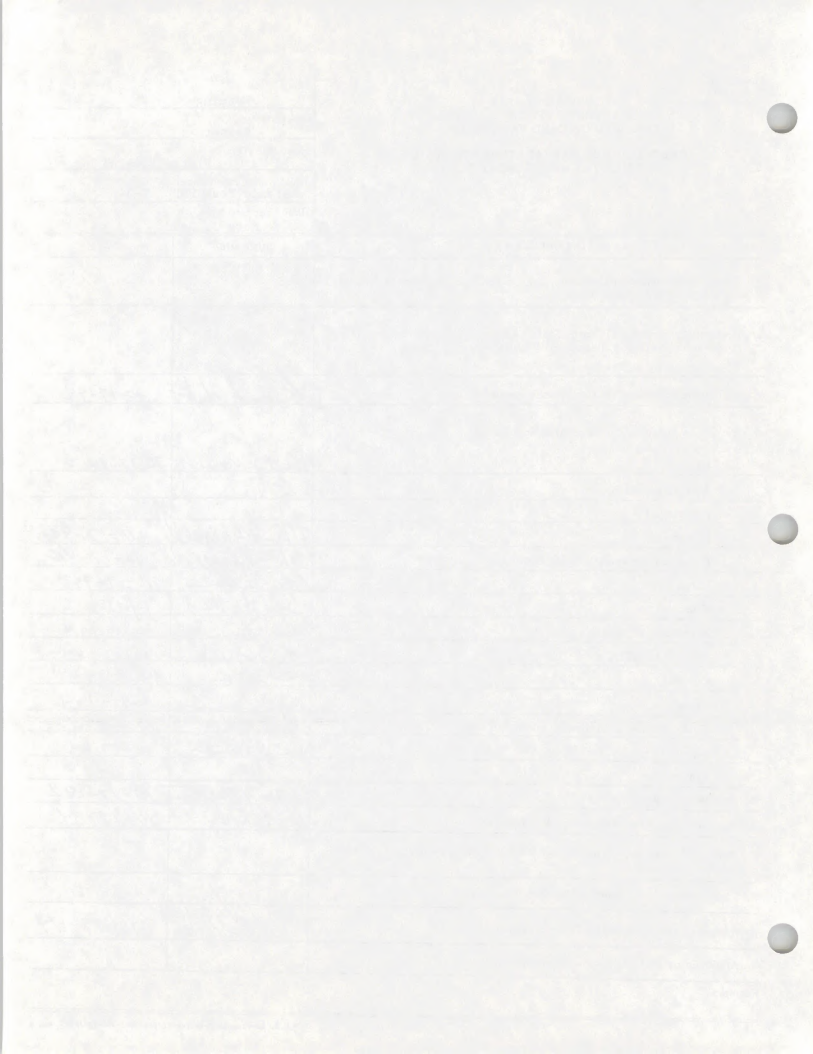
CHECKLIST FOR PREPARATION AND REVIEW  
OF HABITAT MANAGEMENT PLANS

State	Wyoming
District	Casper
Resource Area	Platte River RA
HMP Name and Number	Laramie Peak HMP T-34
HMP Prepared by	Mary J. Read

REVIEW CHECKLIST	SURNAME	DATE
1. Master Memorandum of Understanding, Sikes Act Agreement and/or Supplemental with State Agency.		
2. Preliminary meeting(s) with State Agency (or other appropriate cooperators) to jointly discuss HMP objectives.		
3. Endangered Species Act Compliance completed by	<i>Kerry A. Holt</i>	10-17-94
4. Review by District/Resource Area Specialists		
Range	<i>Robert A. Nelson</i>	10-17-94
Wild Horse and Burro	N/A	
Hydrologist	N/A	
Forestry	<i>W. Fitzgerald</i>	10-17-94
Fisheries/Botanist/Wildlife Biologist	<i>W. Fitzgerald</i>	10-17-94
Lands	<i>John S. Bell</i>	10-17-94
Minerals	<i>John E. Thies</i>	10/17/94
Recreation	<i>Don S. Jansen</i>	10/17/94
Wilderness/ACEC	<i>Don S. Jansen</i>	10/17/94
Cultural	<i>Don S. Jansen</i>	10/17/94
Visual	<i>Don S. Jansen</i>	10/17/94
Environmental Coordinator (reviews EAs)	<i>W. Fitzgerald</i>	10-17-94
Support (Chief of Operations/Fire Management)	<i>Tim Matlock</i>	10-17-94
Others	N/A	
5. Reviewed by Area Manager	<i>Wesley H. H. H. H.</i>	10-17-94
6. Reviewed by Chief of Resource Management	<i>Don Whyte</i>	10-17-94
- Draft HMP and EA reviewed by State Agency authorized officer or other cooperators).		
8. Final review (if appropriate) by State Director		
9. Reviewed and approved by District Manager	<i>Don Whyte (for)</i> <i>Don H. H. H.</i>	10-17-94
10. Approved by State Agency authorized officer		

Remarks





## HABITAT MANAGEMENT PLANS

.01 Objectives. The overall objective of any Habitat Management Plan (HMP) implementation is to manage habitats on the public lands for the conservation and rehabilitation of fish, wildlife, and plant resources consistent with multiple-use management principles. To meet this objective it is necessary to:

A. Provide procedures for preparation and implementation of HMPs with defined management actions or prescriptions to protect, improve, and maintain wildlife habitat.

B. Define specific BLM wildlife activity planning and on-the-ground project implementation procedures.

C. Provide continuity in developing HMPs and correlate wildlife population goals and objectives proposed by State wildlife agencies with BLM wildlife habitat management goals and objectives.

D. Ensure that HMPs meet the requirements of comprehensive plans as presented by Title II, Sec. 201(a) of the Sikes Act, as amended (P.L. 93-452; 16 U.S.C. et. seq.).

E. Promote the development and implementation of HMPs for the conservation of sensitive, threatened, and endangered plants and animals officially listed by Federal or State agencies.

.02 Authority. (See Appendix IX)

.03 Responsibility.

A. The Director and Associate Director are responsible for overall HMP program coordination and its interactions with all other Bureau programs. They are also responsible for determining Bureauwide priorities for HMP funding and implementation. These responsibilities are exercised through the Deputy Directors.

B. Deputy Director for Lands and Renewable Resources, within his/her assigned areas of responsibility, is responsible for the overall coordination and integration of HMP policies and procedures. He/she provides policy and program interpretations, direction, leadership, and line management to assure consistency of field implementation for HMPs.

C. Assistant Director Renewable Resources, is responsible for HMP policies, procedures, and programs that are consistent and coordinated with similar action plans for Rangeland Management, Wild Horses and Burros, Water Resources, and Forest Management. He/she identifies, addresses, and reconciles HMP issues and conflicts within and between programs under his/her responsibility.

D. Chief, Office of Budget, is responsible for ensuring that requests for new authorization or appropriations transmitted to the Office of Management and Budget (OMB) and the Congress are supportive of the Director's and Administration's funding and employment decisions for the preparation, implementation, and monitoring of HMPs.

E. Chief, Division of Administrative Services, is responsible for ensuring that procurement and assistance procedures used to implement HMPs are in legal compliance with the Federal Land Policy and Management Act (FLPMA), Sikes Act, Public Rangelands Improvement Act, Federal Grant and Cooperative Agreement Act, Economy Act, OMB procedures, and Interior Department and BLM procurement regulations.

F. Chief, Division of Wildlife, is responsible for developing and issuing guidelines for the preparation and implementation of HMPs and ensuring that they

1. The first part of the report is a general introduction to the subject of the study. It discusses the importance of the study and the objectives of the research.

2. The second part of the report is a detailed description of the methodology used in the study. It includes information about the sample, the data collection methods, and the statistical analysis.

3. The third part of the report is a discussion of the results of the study. It presents the findings of the research and discusses their implications.

4. The fourth part of the report is a conclusion. It summarizes the main findings of the study and provides recommendations for future research.

5. The fifth part of the report is a list of references. It includes all the sources used in the study.

6. The sixth part of the report is an appendix. It contains additional information that is not included in the main body of the report.

7. The seventh part of the report is a glossary. It defines the key terms used in the study.

8. The eighth part of the report is a list of figures. It includes all the charts and graphs used in the study.

9. The ninth part of the report is a list of tables. It includes all the tables used in the study.

10. The tenth part of the report is a list of abbreviations. It includes all the abbreviations used in the study.

11. The eleventh part of the report is a list of acronyms. It includes all the acronyms used in the study.

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15. The fifteenth part of the report is a list of parameters. It includes all the parameters used in the study.

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19. The nineteenth part of the report is a list of keywords. It includes all the keywords used in the study.

20. The twentieth part of the report is a list of terms. It includes all the terms used in the study.

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22. The twenty-second part of the report is a list of sentences. It includes all the sentences used in the study.

23. The twenty-third part of the report is a list of paragraphs. It includes all the paragraphs used in the study.

24. The twenty-fourth part of the report is a list of pages. It includes all the pages used in the study.

are consistent with principles of ecosystem management and coordinated with other resource activity plans. The Chief also is responsible for compiling Bureauwide HMP statistics, providing such information as is deemed necessary to support relevant budget requests, and being responsive to public inquiries.

G. Chief, Division of Rangeland Resources, is responsible for ensuring that policies and guidelines for the preparation and implementation of livestock grazing Allotment Management Plans (AMPs) are coordinated with HMPs and consistent with principles of ecosystem management.

H. Chief, Office of Planning and Environmental Coordination, is responsible for the coordination of HMP-related guidelines and procedures with the Bureau's planning, inventory, and NEPA compliance systems through the Chief, Division of Wildlife, and that such systems are consistent with the principles of ecosystem management.

I. Other Division and Office Chiefs are responsible for ensuring that policies and guidelines for their respective resources' activity plans are coordinated with HMPs (e.g., Forest Management Plans, Mining Plans, Wilderness Management Plans) and are consistent with principles of ecosystem management.

J. State Directors are responsible for quality control of HMPs, for establishing priorities for HMP preparation, implementation, and funding within their respective States, and for submitting the annual HMP Statistics Report (Form 6780-3) to the Director (240) in a complete and timely manner. State Directors also are responsible for ensuring that HMPs are implemented and coordinated with their respective State agencies. A State Director has the option to approve and/or sign HMPs in coordination with the State agency Director.

K. District Managers sign and approve HMPs upon completion and ensure that requirements for Resource Management Plan (RMP) or Management Framework Plan (MFP) objectives and decisions are met. They also ensure that HMP statistics are submitted to the State Directors.

L. Area Managers are responsible for HMP preparation and on-the-ground habitat management and implementation of HMPs and for ensuring that such plans meet the specified objectives, planned actions, and evaluations so prescribed in planning documents. They also recommend approval of HMPs, provide the required line management supervision for their preparation, revise/update HMPs as needed, and conduct coordination with local State agency personnel.

M. District and Resource Area Staff Wildlife and Fisheries Biologists and Botanists assist Area Managers in the preparation and coordination of HMPs with appropriate local State agency personnel. Staff biologists and botanists should ensure that the biological components of the plans are adequate, that they fulfill ecosystem management requirements, and that fish, wildlife, and threatened or endangered plant and animal management priorities are established and scheduled in the HMP.

#### .04 Definitions.

A. Crucial Habitat: Habitat which is absolutely basic to maintaining viable populations of fish, wildlife, or plants during certain seasons of the year or specific reproduction periods.

B. Ecosystem Management: The integration of different land management goals to ensure that the integrity of the ecosystem will be maintained. Ecosystem management is directed toward habitat management rather than species management, the concept being that species will be maintained naturally if a proper mosaic of habitats exists. Ecosystem management encompasses featured species and species diversity to ensure compliance with existing laws; prevent species from becoming threatened or endangered; and provide values and uses for the public. The overall goal of ecosystem management for wildlife is retention

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or management of all natural habitats in sufficient quantities to support viable and self-sustaining populations of all native wildlife; e.g., riparian areas, cliffs, wetlands, and old-growth forests.

C. Habitat Development: All actions to improve; protect; and maintain fish, wildlife, and threatened, endangered, and sensitive plants and animals and their habitats. This includes funds, equipment, and personnel for: project survey and design; contract preparation; on-the-ground project work; project supervision; maintenance; on-site, pre- and post-project treatment studies and monitoring; and those public affairs programs necessary to explain habitat development and to denote HMP locations and purposes.

D. Habitat Management Plan: A written and approved activity plan for a geographical area of public lands which identifies wildlife habitat management actions to be implemented in achieving specific objectives related to RMP/MFP planning document decisions. Different terminology used for HMPs is as follows:

1. Sikes Act HMPs are prepared and implemented jointly with State agencies under authority of the Sikes Act, Title II and are thus the same as comprehensive plans. Such plans are denoted as Sikes Act HMPs in writing within the HMP itself and through the BLM-State agency Master Memorandum of Understanding or Supplements thereto.

2. Other HMPs are those not covered under the Sikes Act, which were either prepared prior to the Act's passage in 1974 or for some reason have not been designated as such.

3. Implemented HMPs are those which have been approved for funding support and policy direction by the State Director and/or District Manager. In essence, they become implemented once funds and/or manpower have been obligated to accomplish habitat management actions on the ground. Funds so obligated can include State agency contributions as well as those of BLM and other Federal agencies.

4. Completed HMPs are those for which at least 90 percent of the total funds required for implementation have been obligated toward originally planned habitat improvement and protection actions and they are essentially in a maintenance phase.

5. New HMPs are those which have just been, or are being, prepared and can be ready for on-the-ground implementation and funding support during upcoming fiscal years (FYs); e.g., those classified as "new" at the end of FY 1982 can be implemented beginning with FY 1983.

6. Revised HMPs are those which have undergone updating and complete or partial revision to bring them within acceptable legal and policy standards.

E. Priority Species and Habitats: Those fish, wildlife, and plant species or habitats that have been identified in the MFP, RMP, or through special studies as having special significance for management. These may include endangered, threatened, or sensitive species, species of high economic or recreational value, and aquatic or riparian habitats. Also included are individuals or populations of animals and/or plants that are recognized as significant for one or more factors, such as density, diversity, size, disjunct occurrences, or age (e.g., the 11-12,000-year-old creosote bush rings in the California Desert Conservation Area; the high diversity and density of nesting raptors in the Snake River Birds of Prey Area; or an area such as Ash Meadows in Nevada which supports a high concentration of rare plants and animals).

F. Reasonable Numbers: Population numbers of a species which are estimated to currently exist in a specific geographical area or are projected at a certain population level based on a long-term average. Reasonable population numbers are usually determined to assess allocation of forage for big game species. These numbers are derived from State agencies' input and subsequent



management is mutually agreed upon by BLM and the State agency.

G. Wildlife: All species of aquatic, marine, avian, and terrestrial animals, both native and exotic, normally found in a wild state. Feral horses and burros are excluded.

H. Wildlife/Plant Habitat. All elements of a wild organism's environment which the organism's needs to complete its life cycle normally and naturally, i.e., to maintain a healthy life and perpetuate its population through normal reproduction. These elements may include, but are not limited to: nutrition, cover, water, and living space, in the amounts, qualities, and locations which the organism requires to complete its life cycle.

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3. The third part of the report is a discussion of the results of the study. It compares the findings with the previous research and discusses the implications of the study.

4. The fourth part of the report is a conclusion and a list of references. The conclusion summarizes the main findings of the study, and the references list the sources used in the research.

5. The fifth part of the report is an appendix containing additional information related to the study, such as raw data, questionnaires, and interview transcripts.

6. The sixth part of the report is a bibliography listing the sources used in the study.

7. The seventh part of the report is a list of figures and tables used in the study.

8. The eighth part of the report is a list of abbreviations and acronyms used in the study.

9. The ninth part of the report is a list of keywords used in the study.

10. The tenth part of the report is a list of acknowledgments.



.1 Determining Needs and Priorities.

.11 Plan Objectives and Actions. Specific HMP objectives and actions are based upon decisions obtained through the resource management planning process (RMP).

.12 Priorities for Development. State Directors establish HMP preparation and implementation priorities based on BLM District and State critical issues and resultant programs for development and implementation of HMPs within their respective States. These priorities must be in accordance with Section 202 of the FLPMA of 1976 (43 U.S.C. 1712), Title II of the Sikes Act (16 U.S.C. et seq.), and the Public Rangeland Improvement Act of 1978 (92 Stat. 1803).

.13 State Agency Planning Coordination. Many State agencies have developed long-term, Strategy Plans for the management of wildlife species and their populations. State Directors must ensure that such State agency planning efforts are consulted, coordinated, and referenced in HMPs. If deemed appropriate, BLM, State, and other Federal agency wildlife planning efforts may be combined at a State or regional level in the form of comprehensive or strategic plans. This can help ensure broad, coordination efforts and assist in the synchronization of HMPs affecting multi-agency lands and resources.

.2 Scope of Plan. Habitat management areas are established to encompass the biological requirements of priority species, regardless of land status. These areas are managed on an ecosystem basis. In this case, the species emphasized is bighorn sheep.

.21 Management Considerations.

A. Priority Species and Habitats. Each plan must consider the requirements of priority species and habitats (e.g. bighorn sheep). These may include Federal- or State-listed endangered or threatened species; fish, wildlife, or plants of significant economic or recreational value; species highly sensitive to land-use changes; individuals or populations of special significance; and aquatic or riparian areas or other habitats of special significance. Priority species and priority habitats normally are established in cooperation with appropriate State management agencies.

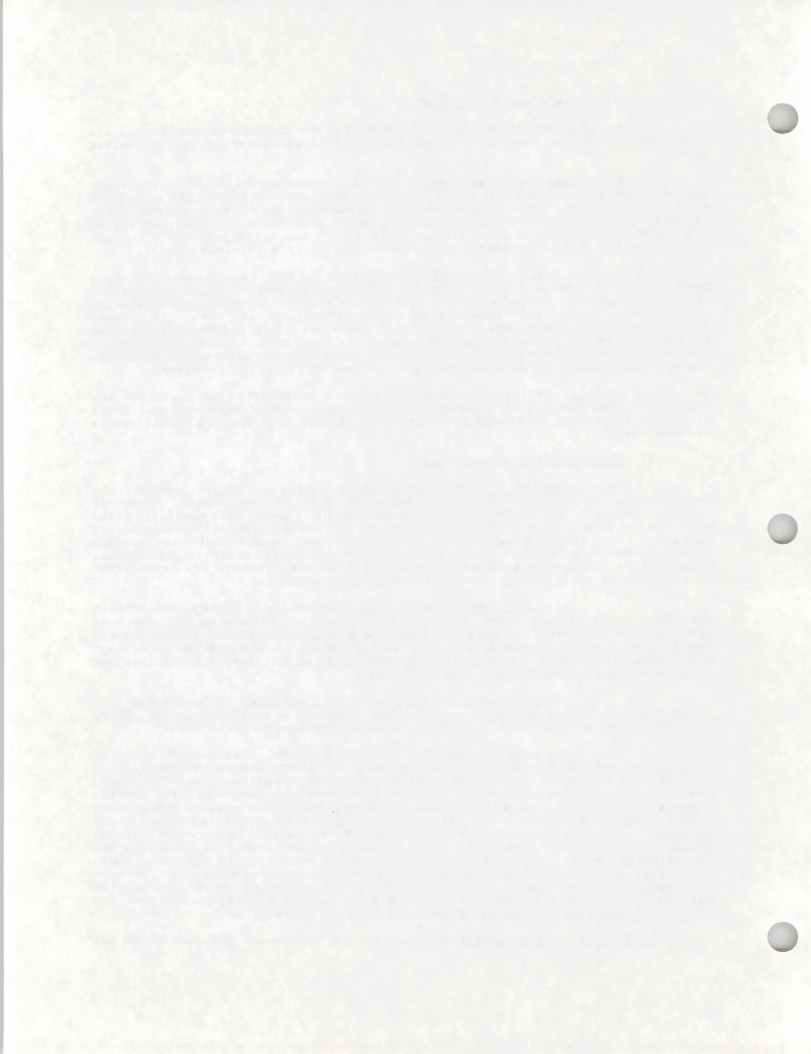
1. Big Game Populations. Existing MFPs may not contain specified population numbers or vegetation allocation allowances for big game species. In such cases, population levels should be established in the HMP and coordinated with the State agency. These population levels must be consistent with social and economic needs, habitat sustenance capability, and multiple-use management objectives for the area concerned.

2. Threatened and Endangered (T/E) Plants. The responsibility for T/E plants is an integral part of the Bureau's wildlife program. Thus, activity planning for these plants is to be accomplished within HMPs.

B. Ecosystem Management. It is important that managing for or maintaining desired ecosystems be the primary consideration in the development of HMPs. If an HMP is intended to help a particular wildlife or plant species, the primary objective must be to preserve the ecosystem upon which the species depends. This means that all proposed management practices must be designed to ensure the maintenance of a natural or desired diversity of plants, animals, and habitats. The quantity and quality of nutrients, water, food, cover, living space, and the proper mixture of these to meet desired levels of abundance and diversity are major considerations for management attention in the HMP. Human intrusion, climate, topography, and other habitat determinants must also be considered. An HMP should prescribe methods for improving manageable habitat that is a deteriorating condition, and also should specify procedures for maintaining manageable habitat that is already in satisfactory condition.

.22 Administrative Considerations. Habitat management area boundaries are





established by the District Manager to address BLM-administered habitat management needs and to facilitate the administration of law enforcement, visitor management, and other administrative programs related to habitat management. Habitat management areas and boundaries should not overlap, except in special cases which require separate HMPs for aquatic habitats. As HMPs are revised and updated, any overlap in boundaries should be eliminated.

A. Areas of Reserved Federal Mineral Estate. Reserved Federal mineral estate lands (private ownership/federal minerals) are treated as other non-Federal surface lands within the HMP area. The exception is that the HMP must identify, for recommendation purposes, general types of mitigating measures and lease stipulations for surface land management to protect, improve, and maintain wildlife habitat components. The stipulations then can be used in the formulation of alternatives and mitigating measures in environmental assessments or impact statements. BLM has the responsibility of ensuring that protection measures are taken to prevent detrimental environmental impacts on adjacent non-Federal surface lands and compliance with the Endangered Species Act.

B. Other Land Ownerships. The Bureau's habitat management responsibility and HMP program applies only to BLM-administered surface lands, except as noted under .22A, above. Where other land ownerships are involved, the HMP may include appropriate habitat management recommendations and be used as a guide to encourage the respective landowner(s) to implement practices to improve, protect, and maintain wildlife habitat.

1. The first step in the process of the scientific method is to ask a question. This question should be based on observation and should be something that can be tested.

2. The second step is to do background research. This involves looking up information about the topic to see what is already known and to help you form a hypothesis.

3. The third step is to form a hypothesis. A hypothesis is a statement that can be tested. It should be based on the background research and should be something that can be proven true or false.

4. The fourth step is to test the hypothesis. This is done by conducting an experiment. The experiment should be designed to test the hypothesis and should be done in a way that allows for the collection of data.

5. The fifth step is to analyze the data. This involves looking at the results of the experiment and seeing if they support the hypothesis. If the results do support the hypothesis, then the hypothesis is accepted. If the results do not support the hypothesis, then the hypothesis is rejected and a new one is formed.

6. The sixth step is to communicate the results. This involves writing a report or paper about the experiment and the results. This allows other scientists to see the results and to use the information in their own work.

### .3 The Laramie Peak Habitat Management Plan

#### .31 Introduction

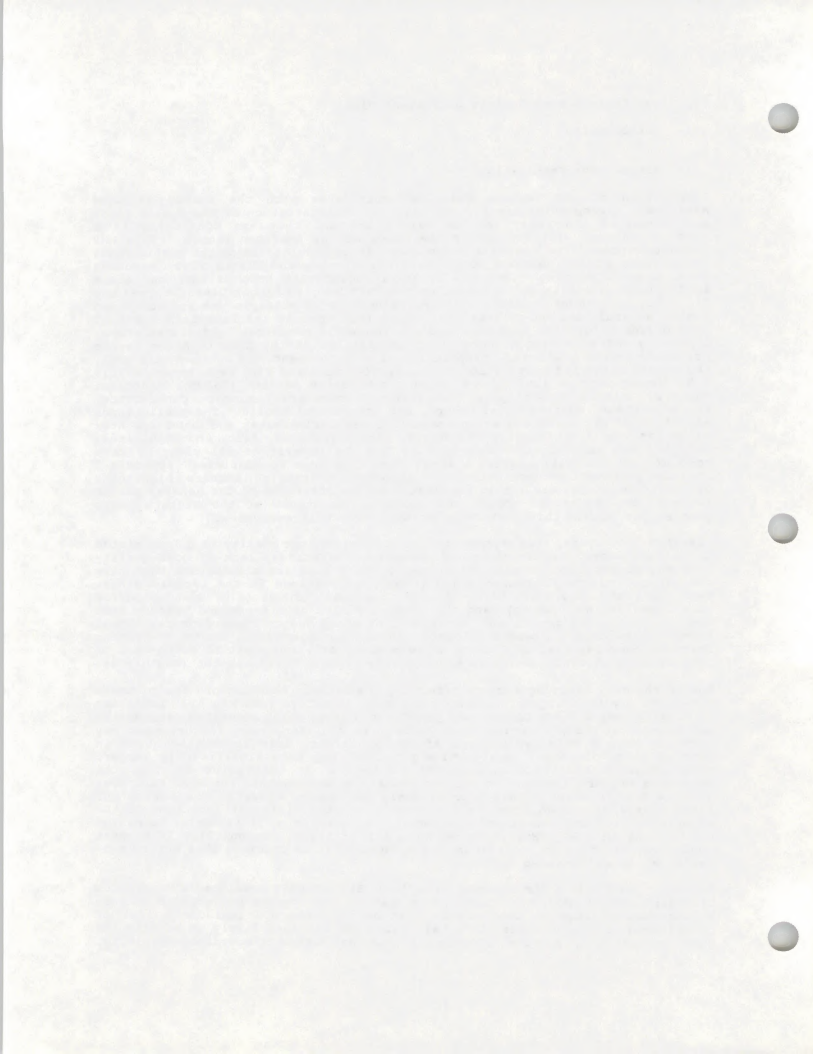
##### .31A Reasons for Preparation

Preparation of the Laramie Peak HMP originates with the Bureau of Land Management's responsibility for the balanced administration of the public lands and resources and their various values so that they are considered in a combination that will best serve the needs of the American people. This HMP focuses on preserving and enhancing bighorn sheep populations on the public lands (BLM, Great Divide Resource Area, Rawlins, Wyoming and Platte River Resource Area, Casper, Wyoming - see Map 2) intermingled with both private and state lands, located within and adjacent to the USFS Douglas Ranger District (see Map 3). This management is based upon the principles of multiple-use and sustained yield, an amalgamation of uses that takes into account the long term needs of future generations for renewable and non-renewable resources. As stated above, improving and enhancing bighorn sheep populations in the Laramie Range is the principle reason guiding the preparation of this document. To achieve this goal, the Bureau needs the cooperation of the Wyoming Game and Fish Department (WGFD), U.S. Forest Service (USFS), U.S. Fish and Wildlife Service (USFWS), ranchers, farmers, miners, developers, adjoining landowners, timber contractors, recreationists, environmental groups, and the general public. The public lands administered by the Bureau are permanent or seasonal habitat and crucial winter range for over 3,000 species of mammals, birds, reptiles, fish, and amphibians. Managing the habitat for these species for the benefit of all citizens is a complex task and will require a 10-15 year time span to complete. Appendix I includes pertinent documentation, such as newspaper articles, letters, highlights of public meetings, etc., that substantiates the attitudes of the general public towards the aesthetic, social and economic importance of the bighorn sheep populations within this particular mountain-foothill ecosystem.

Diseases, predators, fire suppression, decreased habitat quality (e.g. restricted travel corridors, overabundance of dense conifer stands, lack of good quality forage), competition, human encroachment, and stress are all factors that have contributed to the decreased bighorn sheep populations in the Laramie Range. Over the years, the WGFD, USFS, BLM, environmental groups (e.g. Foundation for North American Wild Sheep), and the general public have expressed concern over the low population growth and recruitment of sheep due to these factors. These sheep sub-herds are presently located in the Laramie Range, north of Wyoming State Highway 34, east of Wyoming State Highway 487, and south to south-west of Interstate Highway 26, which is historically bighorn sheep habitat (see Map 4).

Due to the many limiting factors affecting the Laramie Peak bighorn sheep, these sub-herds are becoming more and more isolated in nature (see Map 5). Isolation in wildlife herds tends to decrease genetic viability which generates detrimental conditions to the population as a whole. In addition, many factors that may normally have a relatively minor affect on larger, less segregated herds in general (e.g. diseases, reproductive problems) may have significantly larger, more detrimental affects on isolated sub-herds. At this point in time, the remaining bighorn sheep herds are located and managed within the WGFD Hunt Area 19 (see Map 6) which totals approximately 280 square miles of the entire HMP Area; this area was selected to accommodate for the different locations of the sheep sub-herds and associated management practices (e.g. it is easier to manage populations in 1 WGFD Hunt Area versus a mix of areas, personnel). If present conditions continue to progress quid pro quo then it is possible that entire sub-herds may be obliterated over time.

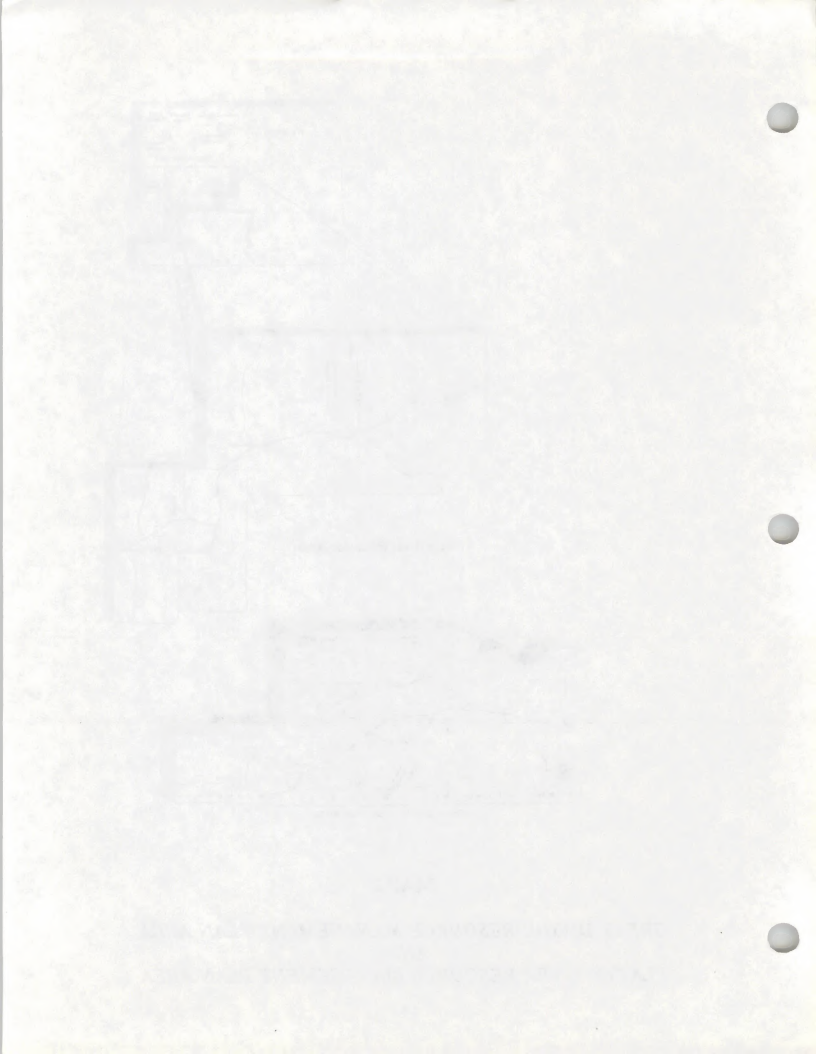
Although the HMP is a BLM document, the WGFD, BLM and USFS developed a Memorandum of Understanding (MOU) that coordinates habitat improvement projects to enhance bighorn sheep range in the Laramie Peak herds. The MOU includes a list of prioritized treatment areas (15 total) which are the most likely to benefit the sheep populations. A Technical Committee was then formed to coordinate projects,

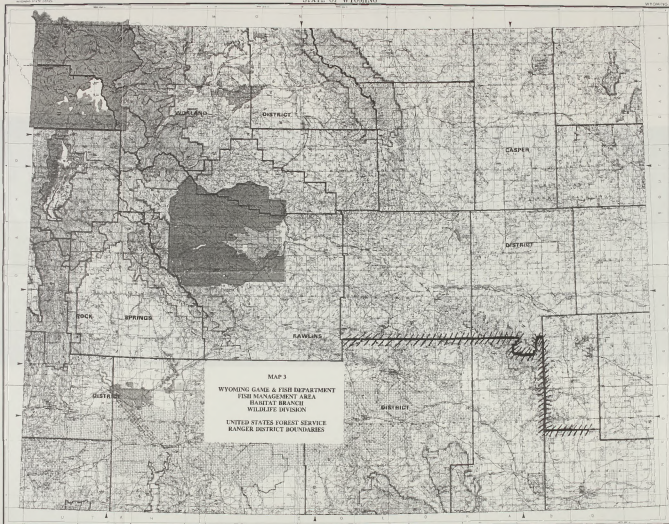












1984-1985  
 Bureau of Land Management  
 Department of the Interior  
 Washington, D.C. 20500

1. National Forest System  
 2. Bureau of Land Management  
 3. Private Land  
 4. State Land  
 5. Indian Land  
 6. Other Land

7. National Forest System  
 8. Bureau of Land Management  
 9. Private Land  
 10. State Land  
 11. Indian Land  
 12. Other Land

13. National Forest System  
 14. Bureau of Land Management  
 15. Private Land  
 16. State Land  
 17. Indian Land  
 18. Other Land

19. National Forest System  
 20. Bureau of Land Management  
 21. Private Land  
 22. State Land  
 23. Indian Land  
 24. Other Land

25. National Forest System  
 26. Bureau of Land Management  
 27. Private Land  
 28. State Land  
 29. Indian Land  
 30. Other Land

31. National Forest System  
 32. Bureau of Land Management  
 33. Private Land  
 34. State Land  
 35. Indian Land  
 36. Other Land





discuss concerns, and view specific areas of interest to sheep management. Appendix I contains a copy of that MOU.

Over the years, the Foundation for North American Wild Sheep, permittees, sportspeople, hunters, and the general public have met with the agencies listed above and have established a need for management of bighorn sheep in the Laramie Peak Range. The Technical Committee and interested parties selected 15 sites to be managed for sheep habitat enhancement. Each area will have a site-specific Environmental Assessment (EA) planned, implemented and monitored. One site-specific EA which has been completed, the Split Rock Project (EA No. WY037-EA0-038, signed Feb. 23, 1993, see Appendix X) has been in effect for over a year and is presently waiting for burn prescriptions to ensue. Planned actions to be used in the site-specific project areas required to facilitate the objectives and the overall goal of the HMP include, but are not limited to, prescribed burns, small-scale tree-felling treatments, water developments, fertilization and herbicide treatments, small commercial logging practices, and general wildlife management practices.

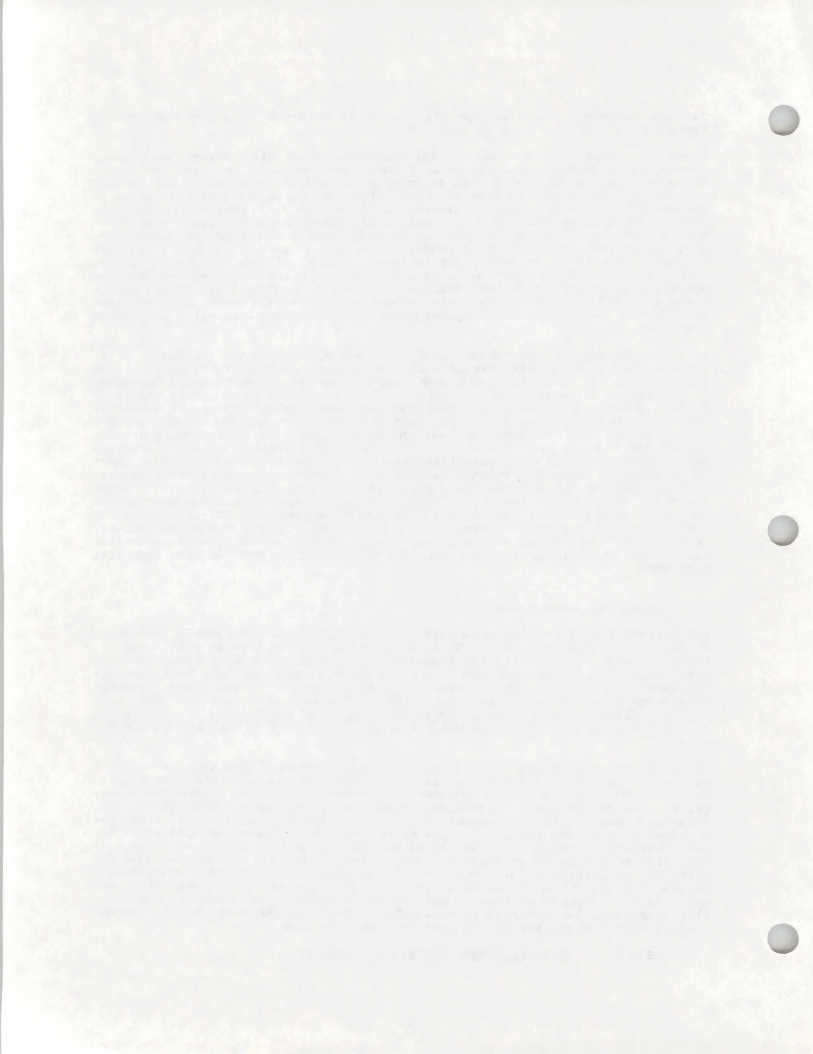
Since the passage of the Federal Land Policy and Management Act (FLPMA) in 1976, considerable progress has been made in improving management of the public lands for wildlife and fisheries. Although some species have significantly increased in population sizes (e.g. elk, antelope), others have remained fairly stable or reflect a decline in population numbers--including bighorn sheep. In addition, over the next decade, the U.S. population is expected to increase about 7 percent with a strong shift towards the West and South; this will create yet a greater demand for natural resources which will result in a greater impact on bighorn sheep populations and their associated habitats. A Habitat Management Plan (HMP) is designed to improve particular wildlife or plant species population levels, through the use of comprehensive plans (as provided for in Title II, Secs. 202(a)(2) and (b) of the Sikes Act), and are prepared and implemented to concentrate on priority species and their habitats (see Sec. .01-.22). This HMP focuses on the population levels and viability of bighorn sheep populations, relative to the social and economic needs of the general public, habitat sustenance capability, and multiple-use management objectives for the area concerned.

### **.31B Ecosystem Description**

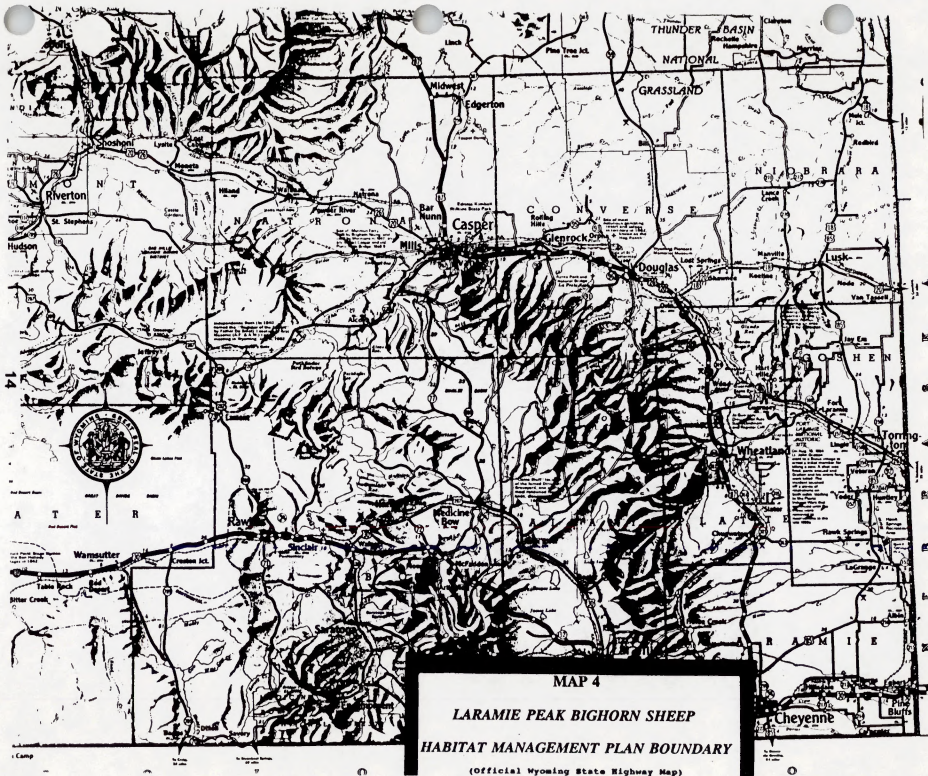
The Laramie Peak HMP encompasses approximately 2,045,300 acres and is located in R. 68 W. - R. 78 W., T. 19 N. - T. 33 N. (see Map 1). The area is within two (2) BLM Districts, the Great Divide Resource Area (GDRA) and Platte River Resource Area (PRRA) and is managed under both the Great Divide Resource Area Resource Management Plan (GDRA RMP, signed Nov. 1990) and the Platte River Resource Management Plan (PR RMP, signed July, 1985). The area also included USFS lands and State lands as well. The isolated populations of sheep herds are located in an area that is approximately 180,000 acres (280 square miles) within the HMP Area.

The planning area contains many diverse wildlife habitat types that have unique vegetative composition and structure to support specific wildlife communities. The HMP habitat types can be grouped into eleven (11) major vegetative types: grass, meadow/riparian, sagebrush, greasewood, saltbush, mountain shrub, broadleaf trees, conifer, juniper, rockland, and barren. Appendix II lists the precipitation zones, the major range sites, and the common plant species within each vegetative type. The diversity of habitat types include renewable and non-renewable resources for recreation, range, forest, minerals, watershed, fish and wildlife, wilderness and natural, scenic, scientific, educational, and cultural values. In addition, a complete list of fish, mammals, birds, reptiles, and amphibians, as well as threatened and endangered species, is included in Appendix III. There are also numerous invertebrates within the HMP Area, but a complete list of specific species is not available at this time.

### **.31B.1 Bighorn Sheep Population Dynamics**







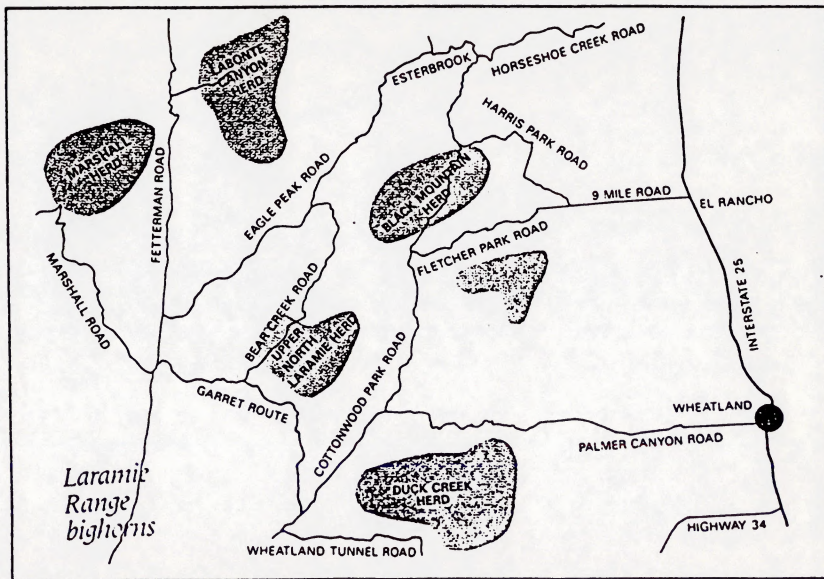
MAP 4

LARAMIE PEAK BIGHORN SHEEP  
HABITAT MANAGEMENT PLAN BOUNDARY

(Official Wyoming State Highway Map)







MAP 5

## LARAMIE RANGE BIGHORN SHEEP HERDS



The purpose of this HMP is to provide a mechanism to improve and enhance bighorn sheep populations in the Laramie Range within the HMP Area. The planned actions that will be used to reach the objectives and goal of the HMP are to plan, implement, and monitor activities in 15 different locations utilizing a diversity of actions. There are several bighorn sheep sub-herds located within the HMP Area that basically outline the diverse site-specific project areas that require habitat enhancement (see Map 7). Due to specific population dynamics, these areas are prioritized according to immediate and future needs. The bighorn sheep habitat types are also described in this section. Historical activities that affect the current population attributes must be considered to understand how and why these sub-herds have become both naturally and physically isolated. Population objectives determined by the WGFD and the modeling techniques used to obtain data must also be considered for this HMP, especially since these herds are both isolated and dispersed, are located in rugged terrain/habitat, and are difficult to observe and monitor at times. Hunter/harvest statistics, as determined by the WGFD, are described since these animals are an important social, aesthetic, and economic species for many local Wyoming, as well as out-of-state, residents (see Appendix I).

#### .31B.1.a Bighorn Sheep Sub-Herd Locations Within the HMP Area

Historical records show that sheep were once abundant in the HMP Area. As human activity increased within the past 100 years, these sheep were locally extirpated -- although small, localized concentrations of herds appeared to remain scattered throughout the Laramie Range. Additional sheep were then reintroduced via several small transplants. Today, sheep are presently contained within the Marshall, LaBonte Canyon, Black Mountain, Fletcher Park, Duck Creek, and Upper North Laramie Herds. The smaller sub-populations of these six (6) herds exist around Sellers Mountain, the North Laramie River and Bearhead Mountain; LaBonte Canyon and upper Horseshoe Creek; Laramie Peak, Albany Peak and Cottonwood Creek; Marshall; lower North Laramie River and Johnson Mountain; and Sybille Canyon (see Map 5). The largest portion of the bighorn sheep herd is centered around steep rocky cliffs and outcrops of the Laramie Peak Wildlife Habitat Management Area in the Laramie Range.

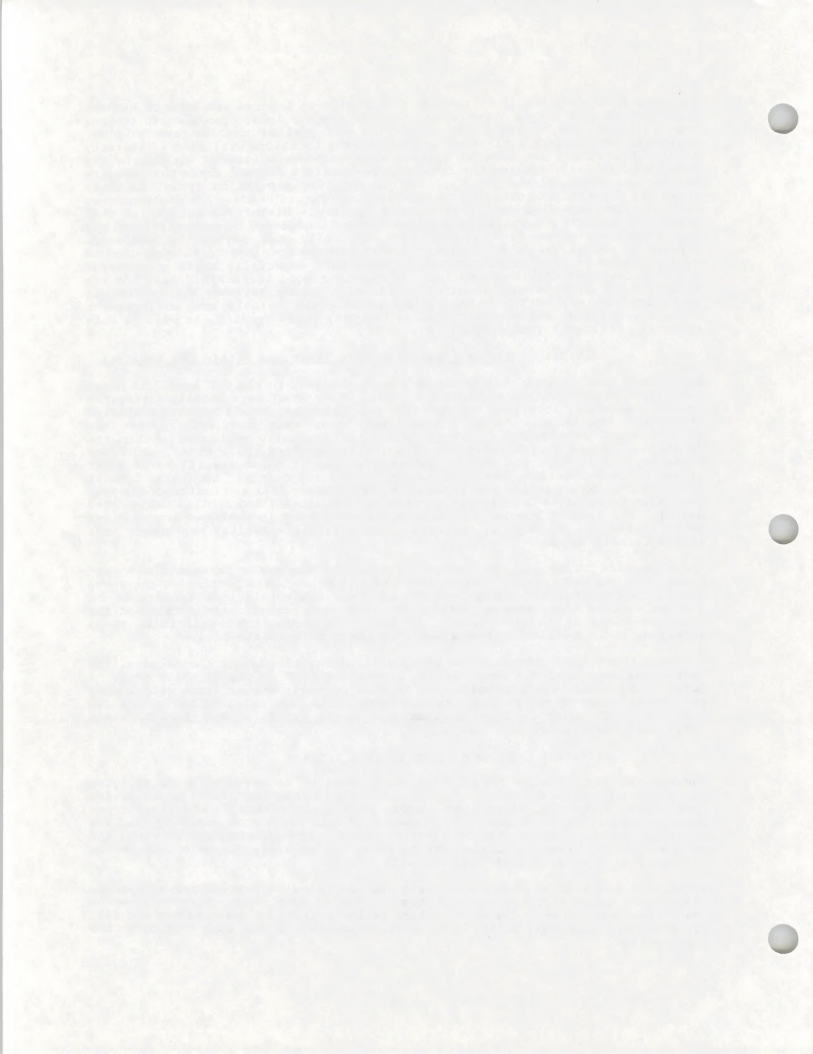
There appears to be limited amounts of seasonal movements between these sub-herds, but the majority of this is confined to the northern portion of the sheep range. Interchange of sheep between southern sub-populations appears to be limited at this time, however, there have been some rams located outside of the main sub-herds in recent years. It should be noted that additional sheep sometimes occur outside of these herds in the Iron Mountain area.

Although there have been numerous sheep transplants throughout the decades, the last transplant that did occur was in January of 1989 in the Marshall area. A total of 20 sheep were trapped on the Whiskey Mountain Winter Range (BLM Ridge) and transplanted to the Marshall area. These sheep were released behind the Jim Robbin's Ranch which is legally located in R. 75 W., T. 27 N., Sec. 5, NWSE. These particular sheep were ear tagged.

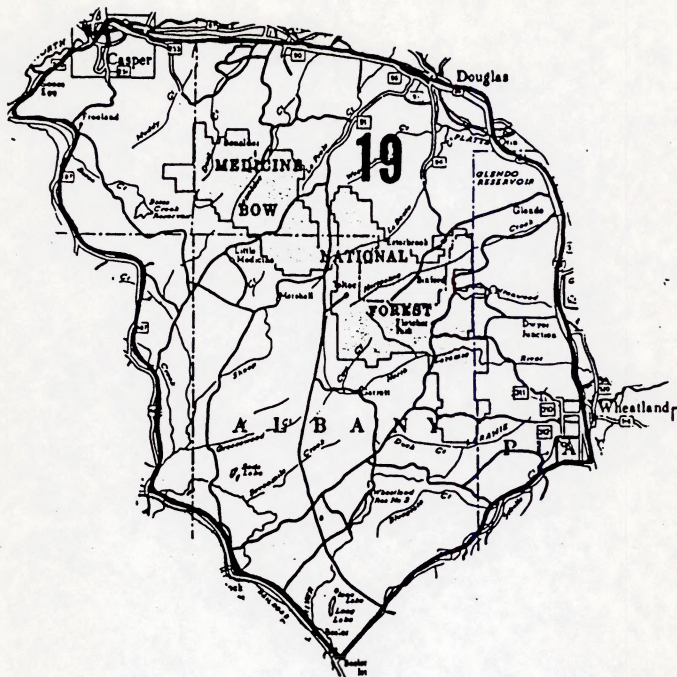
#### .31B.1.b Bighorn Sheep Habitat Types

The habitat requirements for bighorn sheep seem to be keyed to good foraging sites near escape cover (rough terrain). Research has shown that bighorns prefer open grassy ridgetops, slopes, or benches within 100 meters of rocky outcrops, precipitous cliffs, or steep rocky slopes. Habitat types most commonly used are rockland, upland meadows, sagebrush-mixed grass, big sagebrush-rabbitbrush, and mountain shrub. These habitats provide forbs and grasses, the major components in bighorns' diet from late fall to early summer.

Sagebrush, rabbitbrush, and bitterbrush are the principal winter browse species that become especially important during periods of deep snow. Bighorn sheep in the Seminoe Mountains to the west utilize yellow alfalfa in their summer and fall diets as well; the sheep of the Laramie Range probably do the same when given the opportunity.







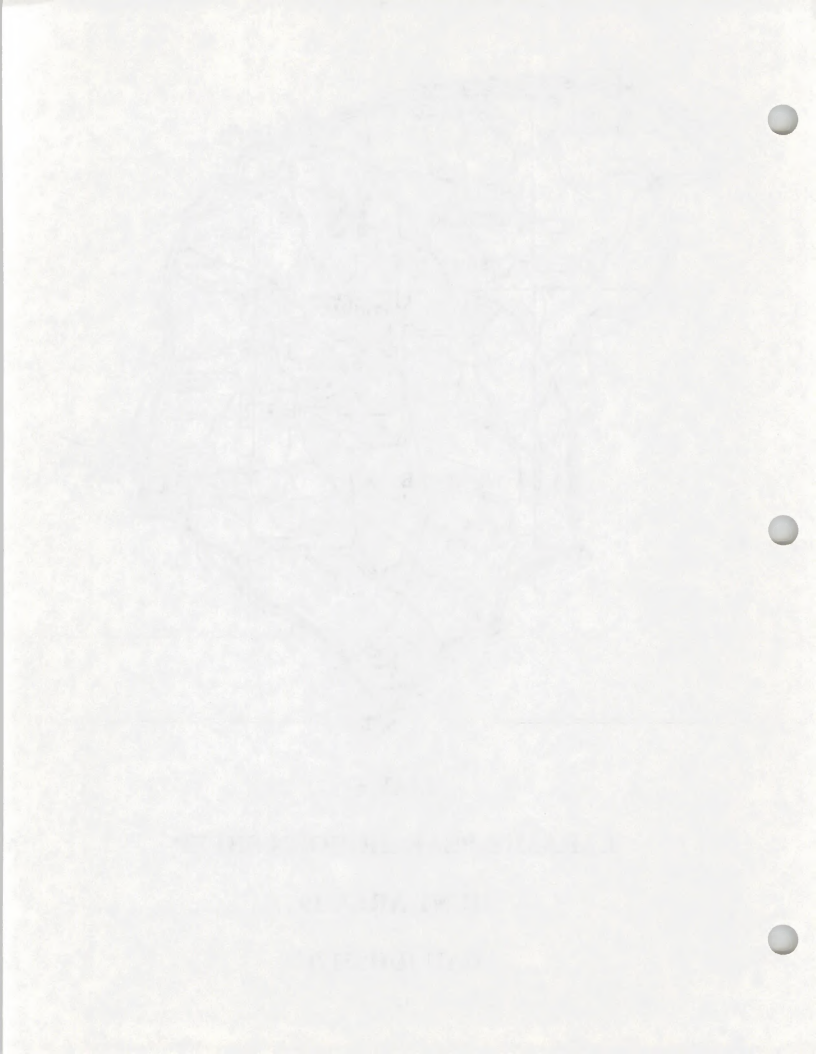
MAP 6

LARAMIE PEAK BIGHORN SHEEP

HUNT AREA 19

DAU (DHS517)





Good quality habitat does exist generally throughout the range, but the amount is limited, and indications are that the relative abundance of bighorn sheep in the population levels (WGFD, 188 sheep in 1992 dropped from a five year average of 216 sheep from 1988-1992) reflects a decrease in habitat availability. Poor habitat quality in the Laramie Range may be the ultimate cause of population declines since the early 1980's. Since habitat quantity and quality play such a vital role in the overall success in the sheep populations, it may be beneficial if the USFS and the BLM revise allotment management plans in the area; livestock-sheep conflicts over habitat, as well as depleted conditions of habitat, are known to occur which puts additional stress on the population.

Relative to bighorn sheep habitat types, it should be noted that due to the ruggedness of the terrain, weather conditions, and scattered distribution and mobility of the sub-herds, data is often difficult to collect. The habitat is remote and often data must be collected via aerial surveys and ground truthing, which is not always feasible in some localities and conditions. The inability to collect adequate population data due to the remoteness and terrain often leads to difficulties in modeling the sub-herds.

#### .31B.1.c Historical Activities Affecting Current Bighorn Sheep Populations

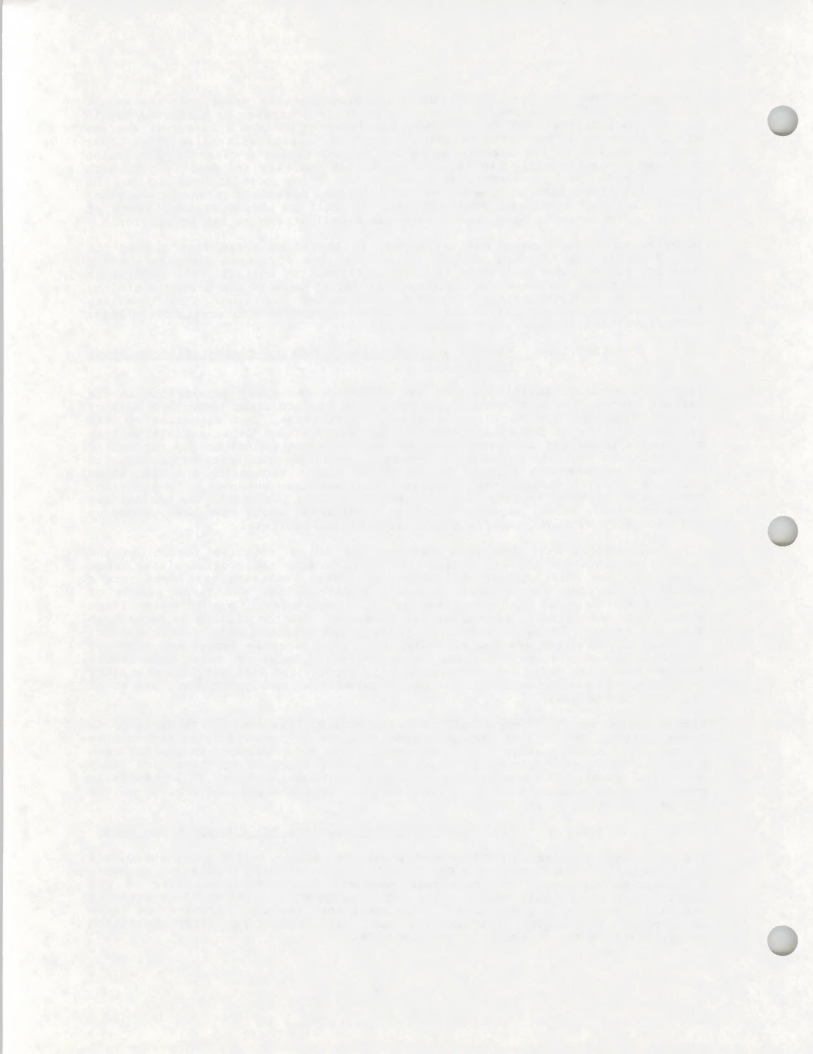
There are numerous activities that are affecting the sheep populations in the Laramie Range. The most serious problem facing bighorn sheep today is a lack of suitable habitat for foraging, resting, parturition, and wintering -- the majority of this is due to increased forest succession. Other activities that supplement pressures on these herds are due to human encroachment, recreation activities on crucial ranges and overgrazing by livestock. Fire suppression in the area has generally allowed for unnatural forest succession and associated decrease in early successional habitats (e.g. mountain meadows). In addition, numerous acreages of forests with diseased/dead trees (mountain pine beetle) are still standing, which, under normal fire conditions, would have been opened up and naturally subsided towards early successional habitats.

Fire suppression over the past century has had a negative impact on the vegetation condition (browse/forage viability) in both the crucial winter range as well as the fall, spring, and summer habitats. Habitats that were once a mosaic of varying age classes currently have numerous and large stands of decadent and or dead mountain pine beetle killed trees. Due to these large stands, any wildfires in such areas, at this time, has the ability to be vast in size and scope. It is difficult to predict the outcomes of any such events, however, if the fires are too extensive then irreplaceable damage may occur to the soils and vegetation. Smaller, more controlled burns can avoid undesirable damage to both the soils and vegetation, will recover the diversity and viability of stands and mountain meadows, and may be beneficial to bighorn sheep and other wildlife in the area.

Historically, two (2) large wildfires burned near Collins Peak and Three Cripples Creek in 1986. These fires removed extensive areas of ponderosa pine forest near escape areas used by sheep. Four (4) other fires have occurred in the HMP area since the 1970s near Government Peak, Duck Creek, Bearhead Mountain, and Sheep Mountain. Today, all these areas are utilized by bighorn sheep. It is basically these types of events, in a controlled manner, that the planned actions of the HMP is attempting to replicate.

#### .31B.1.d Population Objective/Modeling for Bighorn Sheep Herds

The postseason population WGFD objective for the Laramie Peak bighorn sheep herd is 500 animals. The WGFD uses a POP-II model for estimating population numbers. Difficulties derived from inadequate samples, ruggedness/remoteness of the terrain, and unequitable sample sizes and coverage confounded modeling attempts for 1993 (latest data published). This model does include "harvests" on lambs to account for higher age-specific mortality occurring after preseason classifications and to better align the model.



Present model simulations estimate a total of 173 sheep for the 1993 postseason Laramie Peak population. There appears to be a declining trend in population numbers since the 1970's/1980's. The average herd size from 1988 - 1992 was 218 sheep. The 1992 herd size estimate was 188 sheep. The 1993 estimate of 173 sheep therefore reflects a 16% decline in the population from the 1989-1993 period. The 1994 season for the Laramie Peak bighorn sheep herd prescribed four (4) licenses (the same number as 1987).

The POP-II model assumes no natural mortality occurs during the hunting season from September 1 - October 31. Significant lamb mortality appears to occur after the prehunt data are collected and prior to posthunt data collection. High lamb mortality has been noted for the Laramie Peak herds in 1986, 1989, 1990 and 1992, specifically in late summer and fall. These losses may be from poor nutrition and diseases.

In 1993, only 37 different sheep were classified in preseason surveys. This did not meet the required 80% confidence level sample size of 162 sheep. Difficulties in sampling due to terrain, decrease use of helicopters, decreased manpower, scattered sub-herds and weather did not allow for adequate sampling to occur in 1993.

Postseason classifications showed ratios of 12 rams/100 ewes/21 lambs for 1992 compared to 26 rams/100 ewes/46 lambs in 1991. Ram:ewe ratios have averaged about 60/100 from 1988 - 1990, in 1992 the ratios were averaging 19/100. It should be noted that there were only 3 rams observed in 1992 and in general, ram/ewe ratios tend to underestimate the true proportions. Although rams are difficult to account for, the declining trend in the proportion of yearling rams observed in postseason classifications is consistent with poor lamb recruitment. A ratio of 40 rams/100 ewes was obtained during the 1993 preseason classification.

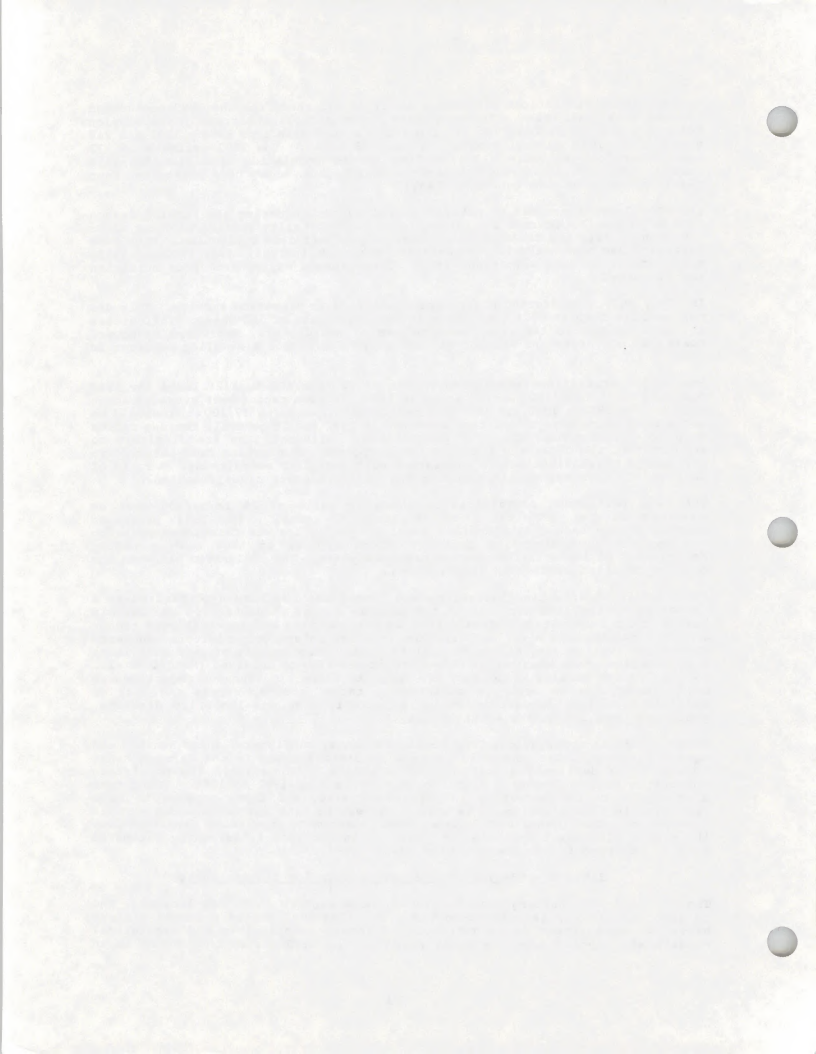
The 1992 postseason classification showed a ratio of 21 lambs/100 ewes as compared to the 1991 ratio of 46 lambs/100 ewes. The 1993 preseason classification showed 45 lambs/100 ewes, however, this was calculated prior to the typical lamb mortality period. There appears to have been a better recruitment of lambs in 1993 versus previous years. The 1991 ratio has been the highest observed since 1988 (WGFD, 1994).

Poor nutrition affecting lactating ewes with lambs has been hypothesized as a factor affecting lamb survival in the Laramie Range. Results from the Laramie Peak Bighorn Sheep Study indicate that lamb production and survival were higher in the North Laramie River subherd than in other intensively monitored subherds due to the availability of higher quality diet. Displacement of ewes with lambs from riparian zones when cattle were present has also been observed (Hengel et al., 1993). Forage quality reductions are known to cause simultaneous reductions in milk productions as well; in addition to these factors, stress and lack of sufficient habitat predispose sheep, especially ewes and lambs, to diseases, predators, and low winter survivability.

Based on casual observations from local residents, outfitters, sheep hunters and agency personnel, the population levels of bighorn sheep in the Laramie Range appear to be declining since the 1970's/1980's. In general, the population appears to have undergone a significant decline from 1982 to 1986. Young rams also appear to be decreasing in population size, and there appears to be a reduction in lamb recruitment as well. Harvest of rams has decreased over this time period. Confidence in the model used to estimate population levels is low; it is possible that the population could be larger than is currently estimated even if observed trends are accurate (WGFD, 1994).

#### .31B.1.e Harvest/Hunter Statistics for Bighorn Sheep

The 1992 and 1993 hunting season allowed for 4 bighorn sheep ram licenses, and in each year only 1 ram was harvested. The 1988-1992 period averaged a 2 ram harvest. Rams appear to be difficult to locate according to the statistical results and reports from the local people. The WGFD states that there is an





adequate population to support the 4 license target, yet due to the trend in the overall decline of the population, consecutive years of low lamb recruitment, and higher non-hunting mortality of sheep, additional tags are not warranted at this time. It should be noted that from 1979 to 1983, 8 licenses were available and 7 rams were harvested in 1983.

Hunter success rate for both 1992 and 1993 was 25%. Four (4) hunters participated in the 1993 hunt. The 1990 success rate was 50% and the 1991 success rate was 75%. The 1993 season averaged 63 recreation days per harvested sheep versus 41 recreation days per harvested sheep in 1992; obviously this shows that there is currently a greater effort to harvest sheep than in previous years. Days per animal have been averaging 59 over the 1989-1993 period (WGFD, 1994).

.31B.2      Other Fish and Wildlife Species/Seasonal Occurrence by Habitat Types

There are numerous other species of wildlife in the Laramie Peak HMP area that include both large ungulates, smaller species and their associated predators. Big game species occupy broad landscapes and require diverse plant communities in fulfilling yearlong habitat requirements. Managing resources to preserve and conserve large ungulate species such as bighorn sheep must utilize an ecosystem approach and can aid in the conservation of other wildlife species as well. In completing the objectives of the HMP, the plant communities (forage and cover in high priority habitat types) can be restored, maintained, and improved to sustain viable big game populations and subsequently small game and other wildlife species. In addition to sustaining a diversity of species, population abundance levels can be maintained to meet both wildlife population requirements, as well as, the social, economic and ecological demands of the general public.

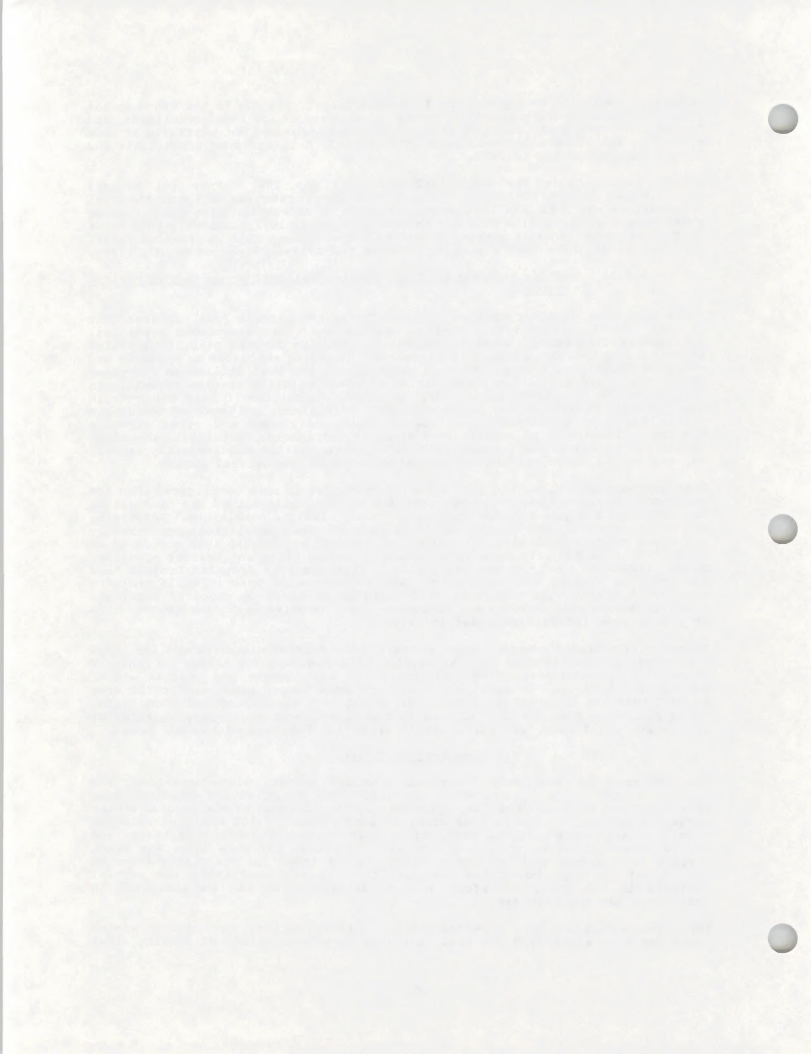
Ecosystem management for big game wildlife resources is more complicated than the management of other renewable resources due to the mobile nature and fluctuation in numbers of big game through time under normal climatic conditions. Addressing the requirements to improve the health of bighorn sheep populations concurrently addresses overall biological diversity (via an HMP approach); this occurs on an ecosystem level and will require the cooperation of State and Federal agencies, other landowners, and the general public. Site-specific Proposed Project Area EAs that are planned and implemented over a longer time span (i.e. 15 projects over 10-15 years) will enable wildlife habitat managers to properly ascertain specific needed requirements and actions -- many of which will diverge over time as populations increase/decrease in size.

Appendix IV contains numerous maps portraying the crucial winter ranges for large ungulates, as well as WGFD Hunt Areas, for both BLM Resource Areas. Appendix V shows the breeding/nesting habitat areas for sage grouse and crucial winter habitat for turkeys. In addition, there are some larger predators in the area as well that are included in Appendix VI, along with associated WGFD Hunt Areas. These predators play a critical role in the development and mortality rates of ungulates, small game, and birds within specified habitats of the HMP Area.

.31B.2.a      Big Game Habitat Types

The HMP area is relatively large and provides summer, winter/yearlong, and crucial winter range for numerous species. The Great Divide Resource Area portion of the HMP area includes approximately 15,400 acres of elk crucial winter range, 10,400 acres of mule deer crucial winter range, 7,100 acres of antelope crucial winter range, 11,520 acres of bighorn sheep crucial winter range, and 49,700 acres (15 lek) of sage grouse nesting areas. At this time, the exact acreage for big game crucial winter ranges is not known for the Platte River RA portion of the HMP, but there are only two (2) full and three (3) partial projects in the PRRA, therefore acreage determination can be addressed in individual EAs for that area.

The Laramie Peak HMP Area provides summer, winter/yearlong, and crucial winter range for approximately 3,140 elk. Elk require a combination of feeding sites



(upland meadow, sagebrush-mixed grass, and mountain shrub), security, and thermal cover (aspen and conifer woodlands). During the summer, elk tend to use the higher elevation woodland types for security and thermal cover, and the upland meadows and sagebrush-mixed grass sites for forage. Elk concentrate on the lower elevation crucial winter ranges during periods of severe weather. Livestock grazing can conflict with elk management, depending on its intensity. The 1993 harvest for WGFD Hunt Areas 7, 19, and 20 (HMP Area) was 700 elk (51% success rate); the WGFD objective for elk in this area is 2,550 animals.

Mule deer are also distributed throughout the seasonal ranges in the Laramie Peak HMP Area. In general, mule deer prefer habitat types that are in the early stages of plant succession and contain a large quantity of shrubs. Mule deer use the woody riparian, shrublands, juniper woodland, and aspen woodland habitat types extensively during spring, summer, and fall. These types provide adequate forage areas with security cover, as well as cover for fawning and succulent vegetation for lactating females. Mule deer tend to winter at lower elevations in the juniper and limber pine woodland, big sagebrush-rabbitbrush, bitterbrush-sagebrush steppe, and riparian habitat types. White-tailed deer utilize the willow-waterbirch and cottonwood habitat types along the major creeks and rivers. Population numbers (1992) for mule deer and white-tailed deer in the HMP Area were calculated from an approximation of combined numbers from WGFD Hunt Areas 64 and 73 (approx. 90%), Hunt Area 70 (approx. 50%), Hunt Areas 66-69 (approx. 75%), and Hunt Area 65 (approx. 95%) and are estimated at 39,452 deer. The WGFD objective for deer in the HMP Area is 41,500 animals.

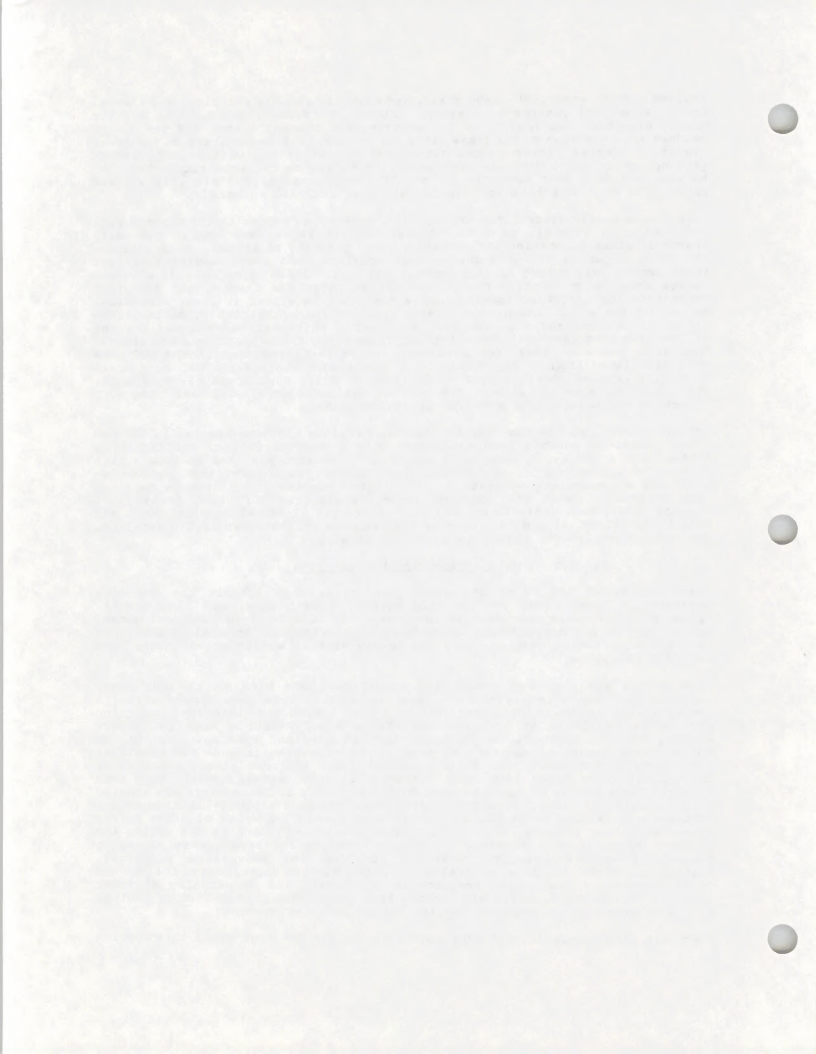
Pronghorn antelope are the most abundant and visible big game species in the HMP Area. Antelope inhabit open rangelands with a wide variety of habitat types rather than a monotypic vegetation community. These types tend to have a high density of grass, forbs, and shrubs (particularly sagebrush) that produce an abundance of succulent vegetation. Population numbers for pronghorn antelope were calculated using the combined approximation from WGFD Hunt Areas 31-33 (approx. 95%), Hunt Areas 30 and 103, Hunt Areas 41, 42 and 47 (approx. 90%), and Hunt Areas 38, 39, 40 and 104 (approx. 25%) and are estimated at 35,270 antelope. The WGFD objective for this area is 40,750 antelope.

#### .31B.2.b Upland Game Bird Habitat Types

There are three (3) types of upland game birds that inhabit the HMP Area ecosystem. These birds include wild turkey, sage grouse, and blue grouse. Upland game birds are chicken-like in appearance, live on dry ground near water, and usually do not migrate, but adapt to seasonal changes. Appendix V describes sage grouse breeding/nesting areas and turkey crucial winter areas in the GDR and PRRA locations.

Sage grouse are the most common and widespread game bird in the HMP Area, although population levels at this time are questionable (see Appendix V). A complete list of the location and status of both active and historical strutting grounds is available at both the BLM Platte River Resource Area in Casper, Wyoming and the Great Divide Resource Area in Rawlins, Wyoming. During the spring, sage grouse concentrate on traditional strutting grounds for courtship and breeding; these are located in openings where adjacent canopy averages at least 32%. These birds nest under sagebrush on drier sites, however they tend to avoid large stands of dense sagebrush; the majority of these nests are located within 2 miles of the strutting grounds. Water can be a habitat-limiting factor to these populations since grouse tend to stay within 1.5 miles of water during warm, dry summer periods, and riparian areas are used by hens in the spring and summer. Appendix VIII provides protection measures for sage grouse wintering areas. Livestock grazing, sagebrush spraying and conversion practices, disturbance of nesting hens, mineral exploration-surface disturbance, failure and or abandonment of key water projects in dry areas, and de-watering of lower sections of the HMP Area are all factors that contribute in one form or another to the decrease in sage grouse populations in parts of Wyoming.

There are some populations of blue grouse within the HMP Area since this species





is associated with forest fringes within the Medicine Bow National Forest. These birds prefer habitat sites that include mountain shrubland; aspen-conifer, quaking aspen, and limber pine woodland; lodgepole pine and ponderosa pine-Douglas fir forest, logging slash, burned over timberland, and sub-alpine clearings. The optimum habitat for blue grouse is aspen meadows intermixed with unevenly aged conifer stands. The edges between these types and small riparian areas within these types are especially preferred. Breeding, nesting, and brood-rearing areas are typically in the edge areas. Fire and timber harvesting operations can damage or destroy blue grouse habitat. These activities can also have beneficial effects if proper vegetative structure and diversity are created or restored as a result of the activity.

Extirpated from most of its original range, the wild turkey has been widely reintroduced and does occur within the HMP Area. This species inhabits open woodland, meadows, and forest clearings. Turkeys usually roost in trees at night. Habitats that provide acorns, fruit and seeds are preferred by the turkey. Crucial winter habitat within the HMP Area encompasses open timberland, mountain forest, logged areas, and open prairies where food is available during the colder winter months (see Appendix V).

#### .31B.2.c Raptor Habitat Types

At this time, there are not any defined raptor concentration sites within the HMP Area, however, raptors do use the habitats along the rivers, cliffs, rocky outcrops and open areas. Due to protection measures, a map depicting raptor nest locations will not be displayed in this HMP document. Raptors (birds of prey) found throughout the HMP Area include eagles, falcons, hawks, harriers, and owls. Since these species occupy an ecological position at the top of the food chain, they can act as biological indicators of environmental quality. A complete list of raptor species can be obtained at the GDRA in Rawlins, Wyoming (see Appendix III). Two species, the peregrine falcon and the bald eagle, are listed as endangered by the USFWS (at this time the bald eagle is considered for downlisting to "threatened"). The ferruginous hawk is a "category 2 candidate" species on the USFWS list of candidate species for threatened or endangered status.

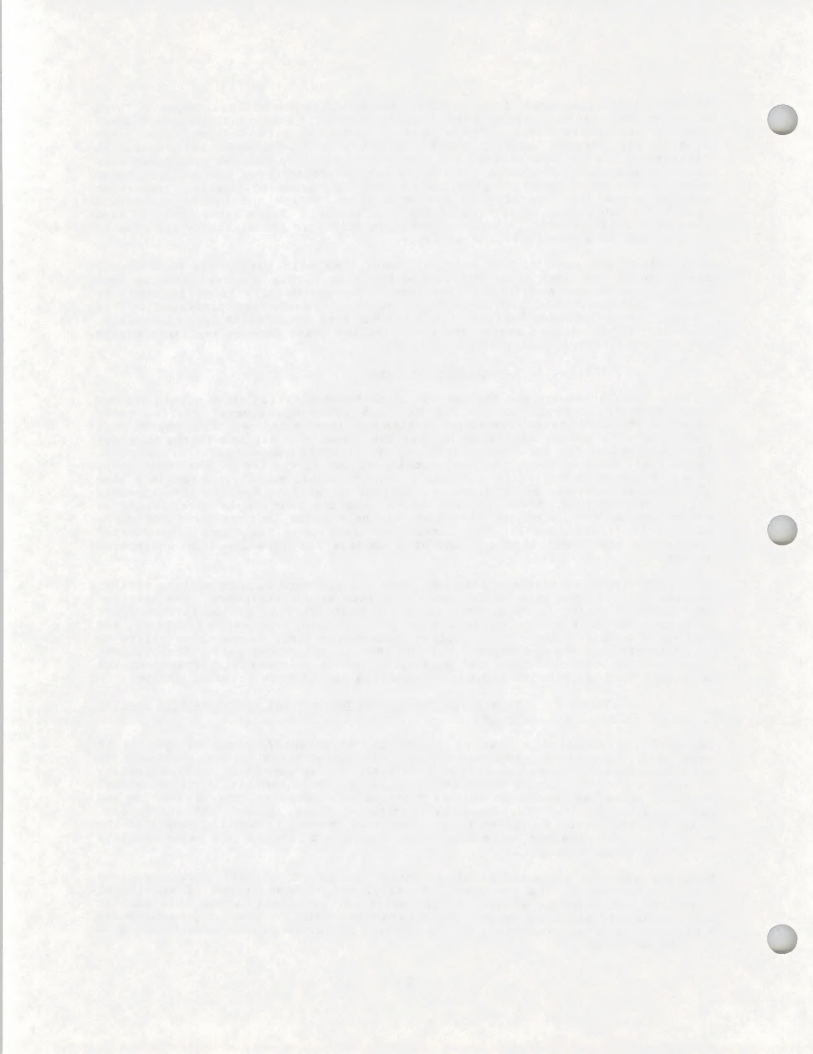
Most raptor species have specific nest site requirements such as nesting strata, availability of prey base, and freedom from nest site disturbance. The nesting-reproductive season is considered to be the most critical period in the raptor life style since it determines population productivity, short-term diversity, and long-term trends. Raptors will often concentrate their nests along cliffs or other formations and use these areas for nesting year after year. The greatest impact on raptor production and population trends is human disturbance at the nest site during critical periods (incubation is the most critical period).

#### .31B.2.d Waterfowl, Shorebirds, Neotropical Migratory Bird Habitat Types

Appendix III contains a list of common and threatened/endangered species of waterfowl, shorebirds, and neotropical migratory birds. The abundance of waterfowl/shorebird species varies from year to year depending on availability of water resources in the HMP Area. Wetland-riparian habitat, such as natural streams, lakes, and ponds, as well as constructed reservoirs, provide nesting and brood-rearing habitat for numerous species of ducks, geese, and shorebirds. Heavy grazing can be a problem (e.g. trampling, removal of nesting cover) in the majority of the riparian zones of streams, lakes, and reservoirs - major habitats needed by these species.

Numerous species of neotropical migratory birds (songbirds) occupy various habitats throughout the HMP Area. Usually, the highest number of species of songbirds are found in woody riparian habitats, especially where this habitat interfaces with sagebrush-steppe and coniferous habitats. Most nongame birds are migratory; they begin arriving to the HMP Area in mid-March and normally are gone by late September.





### .31B.2.e Predator and Trophy Game Habitat Type

The diversity of habitat types within the HMP Area create numerous niches for furbearers, predators, and trophy game that affect ungulate and small wildlife populations in the ecosystem. The main furbearer species trapped for commercial purposes within the HMP Area include the coyote, red fox, bobcat, mink, beaver, and badger. Historically, bobcat and coyote have been heavily exploited due to increased fur prices, although currently these prices have dropped in value. Black bears and mountain lions are considered trophy animals in the state of Wyoming. Calculations from the WGFDF state that in 1992 11 black bear and 18 mountain lions were harvested in the HMP Area. Appendix VI shows the general location of predator habitat included in the WGFDF Hunt Areas in the HMP Area.

Beaver are found in many perennial streams in addition to ponds and lakes. The preferred habitat will usually contain willows and/or aspen species associated with forest fringes and willow-riparian areas. Black bear usually inhabit the forest fringes and riparian areas within the HMP Area as well. In Wyoming, mountain lions prefer habitats that contain conifer woodlands and juniper, mountain shrub, and rockland habitat types.

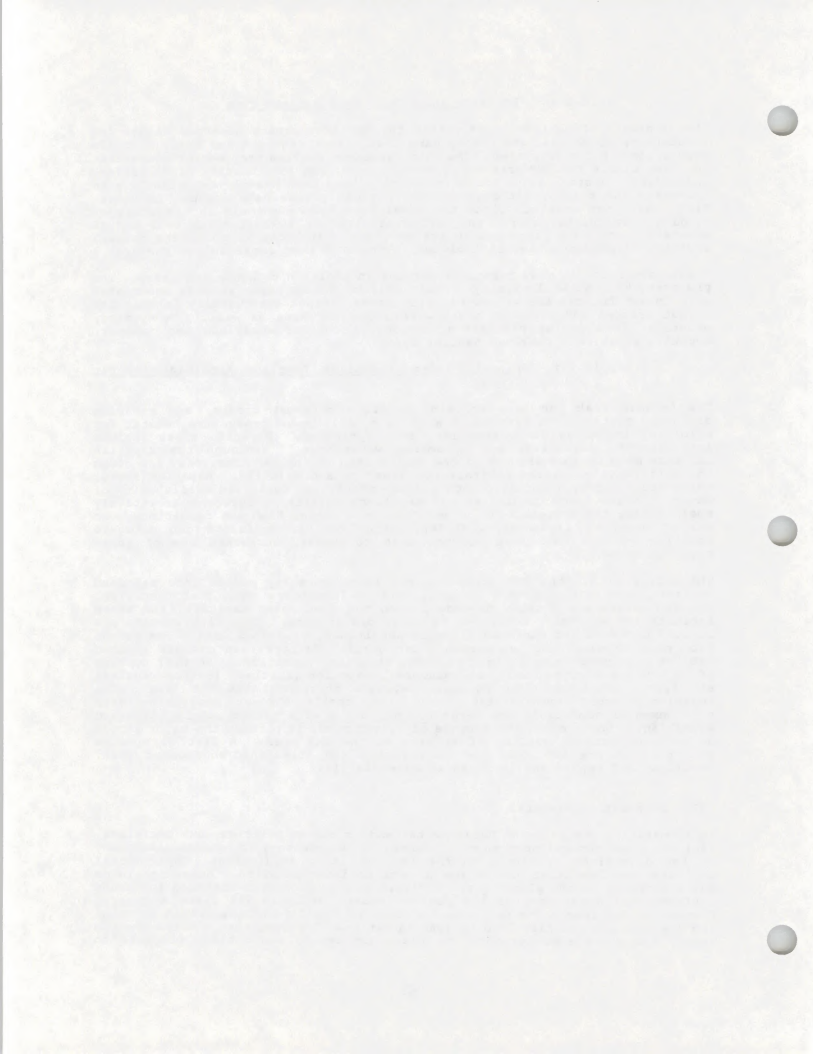
### .31B.2.f Riparian Areas - Fisheries, Reptiles, Amphibians Habitat Types

The Laramie Peak HMP Area contains numerous streams, creeks, and riparian drainages that must be managed to achieve a healthy and productive habitat for wildlife, including fish, reptiles, and amphibians. Riparian areas include intermittent, perennial, and ephemeral watersheds. Although the riparian habitats make up less than 1% of the public land in the HMP Area, they are often the most heavily favored habitats by livestock and wildlife. Riparian areas, which are directly associated with and dependent upon localized availability of water, produce large quantities and excellent quality of forage in relatively small areas; these areas tend to get "hammered" under high use conditions. An HMP approach to livestock/wildlife/riparian habitat conflicts can mitigate negative impacts that have accrued with continual, unchecked use of these critical areas.

The waters within the HMP Area have not been presently mapped into standard habitat types in the USFWS's National Wetland Inventory. Many fish, reptiles, and amphibians are totally dependent upon the open water habitats, and these habitats are extremely sensitive to human disturbance. Game fish species are limited by harsh and variable climatic conditions, watershed conditions (range from poor to excellent, up-stream water quality factors) and overall limited habitat requirements (e.g. lack of woody riparian vegetation). Several species of amphibians (frogs, toads, salamanders), reptiles (turtles, lizards, snakes) and fish inhabit the many perennial streams throughout the HMP Area. The relatively short summers and long, cold spells through mid-spring make environmental conditions too harsh to support a wide variety of reptiles and amphibians. The presence or absence of beaver ponds is perhaps the major factor determining habitat quality of streams in the HMP Area. A list of species occurring in the HMP Area for both common and threatened/endangered fish, reptiles, and amphibians is found in Appendix III.

### .31C Relevant Constraints

In summarizing the relevant Departmental and/or Bureau policies, RMP decisions, laws and other general program constraints, it is necessary to remember that many of the directives contained in the various laws, regulations, Departmental policies, and Executive Orders are subject to interpretation. Bureau policies guide managers in the planning and decision-making processes utilized for sound environmental management of the public lands. Appendix VII lists a general framework of guidance for the Bureau's Fish and Wildlife Program which contains the BLM Fish and Wildlife 2000 Program (a National Program) that enables the BLM agency and associated personnel to plan, implement, and monitor projects to



enhance habitat for wildlife species.

In meeting Bureau responsibilities for fish and wildlife activity planning and related habitat management on BLM-administered lands, it is Bureau policy that:

A. All HMPs must be prepared and implemented in consultation and coordination with State agencies or other appropriate agencies in the case of plants. HMPs also will serve as "comprehensive plans" as provided for in Title II, Secs. 202(a)(2) and (b) of the Sikes Act, if so determined mutually by the BLM and the State agency. It is recommended that as many HMPs as possible be covered under Sikes Act authority.

B. An RMP or MFP must normally be completed prior to the development and approval of an HMP. Where special circumstances so warrant, an HMP may be prepared and implemented prior to the development of an RMP or MFP if it is so approved by the State Director. The Great Divide Resource Management Plan has been completed as of November, 1990. The Platte River Resource Management Plan has been completed as of July, 1985.

C. HMPs are prepared and implemented to concentrate on priority species and their habitats. Subsequently, the geographic areas covered by HMPs are generally more limited in size in order to focus the required special management attention. It may not be necessary to prepare HMPs for all fish, wildlife, or plant habitat and geographic areas within a State or District assuming that such habitat is properly considered and included within an activity plan for another resource. If such is the case, the relevant activity plan will prescribe those actions necessary to improve, protect, and maintain the habitat and species involved and define the funds and personnel required to implement the actions. HMPs and Allotment Management Plans (AMPs) should be coordinated for preparation and implementation to the fullest extent possible to avoid duplication of effort and save costs.

D. Funding priority for habitat development project work is given to those HMPs implemented under the Sikes Act, unless otherwise justified by the State Director and subsequently approved by the Director.

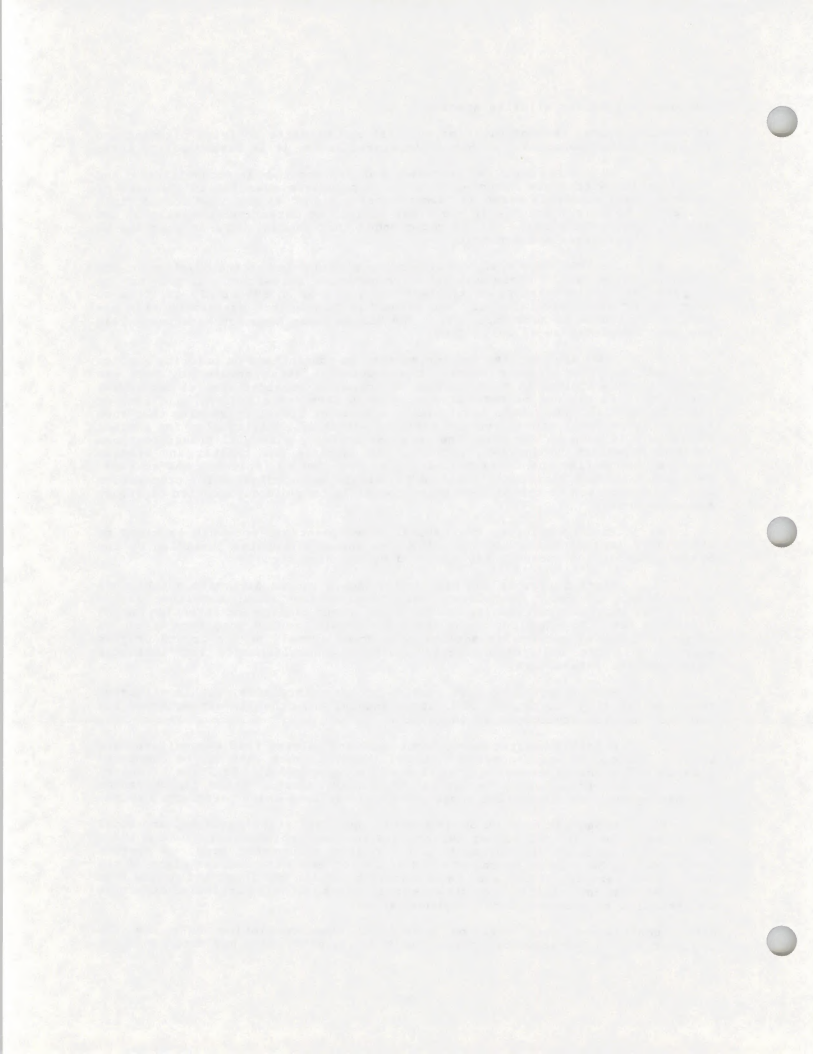
E. State Directors and District Managers should strive to establish a balanced mix of "new," "completed," and "implemented" HMPs, such that varied geographic locations can receive habitat development funding and attention during different FYs. In addition, these officials should prepare long-term schedules of project survey and design actions to precede actual, on-the-ground project work. This not only demonstrates positive accomplishments but indicates readiness for future work.

F. HMP project work must receive proper maintenance, within allocated fund availability, to protect BLM, State agency, and other investments and the improved habitat conditions which result.

G. Wildlife habitat development work and related fund expenditures are usually limited to areas covered by HMPs. However, such work may be completed outside HMP areas if deemed appropriate and so approved by the State Director; e.g., improvement of wildlife habitat within AMP areas. Other circumstances warranting such action include those previously defined under paragraph B above.

H. Consultation with other Federal agencies, State agencies, and local governments is required during HMP preparation and implementation where their administrative lands are adjacent in the habitat management area. A special effort should be made to coordinate BLM Sikes Act HMPs with similar plans of the U.S. Forest Service. It may also be necessary to obtain HMP input and review from organizations, universities, or private individuals if their particular expertise is essential to successful HMP implementation.

Other constraints that must be considered when completing HMPs are the Legislative and Executive direction that the U.S. government has determined for





the Bureau's Fish and Wildlife program. Appendix IX contains descriptions of both the Legislation and Executive orders that drive wildlife programs within the BLM. These acts also detail the authority of the BLM to implement HMPs. These acts and orders must be adhered to when planning, implementing, and monitoring all planned actions within the HMP Area.

In addition to these constraints, the "Wyoming BLM Standard Oil and Gas Lease Stipulations" were developed in 1986. It was recognized that various land uses, other than those related to oil and gas exploration and development, should be subject to similar kinds of environmental protection requirements. Any program activity executed through this HMP must use the mitigation guidelines as stipulations or as conditions of approval of projects (planned actions), or as a baseline for developing specific stipulations for a given activity program (e.g. activities involving big game crucial winter range). The application of these standard mitigation guidelines, which are located in Appendix VIII, to all surface and other human presence disturbance activities concerning BLM-administered public lands and resources will provide uniformity in mitigation - specifically that which has occurred in the past added to that which will most likely occur in the future.

Any relevant constraints concerning land management issues relative to the WGFD are located in the most recent document (1984-1989) titled, A Strategic Plan for the Comprehensive Management of Wildlife in Wyoming. Appendix XI details any constraints pertinent to any of the planned activities within the Laramie Peak HMP Area. Also included in this Appendix is the WGFD's strategic plans for bighorn sheep. This is the most current copy available concerning such constraints.

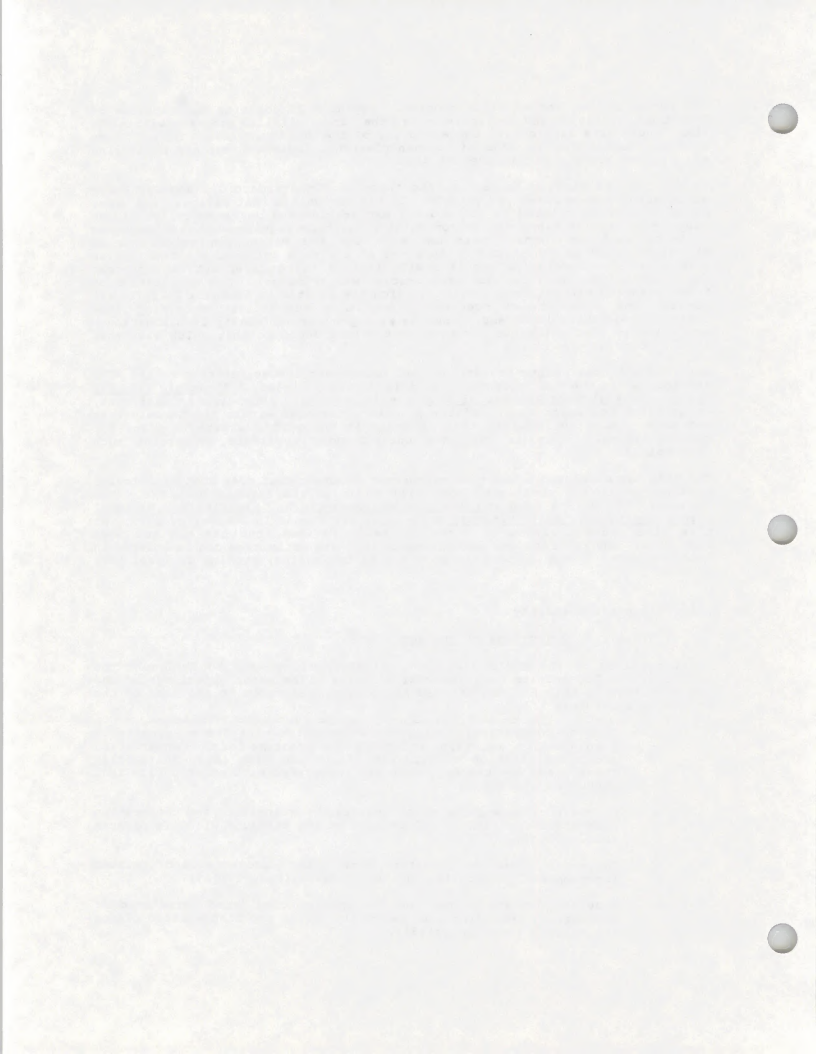
The USFS has completed a land-use management document that does contain relevant constraints to any activities that will occur in the Laramie Peak HMP. The document, the USFS's Land and Resource Management Plan, Medicine Bow National Forest and Thunder Basin National Grassland, was signed in October of 1985. At this time, this document is currently being revised, but has not yet been completed. Any restrictions pertaining to land-use activities can be located in this document; a copy is on file at the GDRA in Rawlins, Wyoming or local USFS office.

### .31D Sikes Act Authority

#### .31D.1 Objectives of the Act

The objectives of the BLM's Sikes Act wildlife program are to implement the intent of the Act and its congressional mandates. The major objectives of the Act pertinent to this HMP are defined as follows (reference to sections of the Act in parenthesis):

1. Develop comprehensive plans in cooperation with State agencies to plan, develop, maintain, and coordinate programs for the conservation and rehabilitation of wildlife, fish, and game (Sec. 202(a)(1)). These plans are the HMPs that are integrated with other public land resources and values.
2. Maintain close working relationships, coordination, and cooperation with State agencies in all aspects of the Bureau's wildlife program (Sec. 202(c)).
3. Implement specific habitat development projects and related improvement, protection, and maintenance (Sec. 201(a)).
4. Provide adequate protection for species considered threatened or endangered, including both federally listed and State-listed plants and animals (Sec. 202(c)(3)).



5. Control off-road vehicle traffic in a manner compatible with relevant wildlife habitat management on the public lands, as specified in the Great Divide Resource Area RMP (Sec. 202(c)(3)(E) and Sec. 205(3)(O)). Any road closures to implement Sikes Act HMP provisions must be published in the Federal Register.
6. Provide for legal enforcement of Sikes Act provisions and stipulations with the State agencies (Sec. 204).

The authority for the BLM and the USFS agencies to implement this act is stated below:

1. The Sikes Act, as amended in 1974, Title II, P.L. 93-452 (16 U.S.C. 679 et. seq.).
2. The Sikes Act, as amended in 1978, P.L. 95-420 (16 U.S.C., 679 et. seq.)
3. The Federal Grant and Cooperative Agreement Act of 1977 (41 U.S.C. 501-509).
4. 43 CFR Part 24.

The Sikes Act of September 15, 1960, was amended on October 18, 1974, by the addition of Title II (P.L. 93-452). It was further amended in 1978 to extend its funding authority (P.L. 95-420). The basic effect of Title II was to extend the Sikes Act authority for wildlife program development from strictly Military Reservations to public lands administered by the Forest Service and the BLM. At the time of its passage, the Sikes Act was viewed by BLM as an "organic act" for wildlife habitat management. It was a clear congressional charter to take positive, orderly actions on behalf of the public land's valuable wildlife resources. The BLM considers Sikes Act implementation and its associated cooperation with State agencies as being of great budgetary and policy importance for overall wildlife program accomplishment.

The Federal Grant and Cooperative Agreement Act of 1977 followed the Sikes Act, being passed on February 3, 1978. This law basically established three (3) vehicles for possible award of funds for wildlife habitat improvement projects (i.e. 15 individual Project Proposals in the HMP)--contracts, grants, and cooperative agreements. Any of these three (3) instruments can be used depending on the situation.

The purpose behind 43 CFR Part 24 is to clarify and support the broad authorities and responsibilities of Federal and State agencies responsible for the management of the nation's fish and wildlife and to identify and promote cooperative agency management relationships which advance scientifically-based resource management programs. This is a Department of the Interior Fish and Wildlife policy. This policy is intended to reaffirm the basic role of the States in fish and resident wildlife management, especially where States have primary authority and responsibility, and to foster improved conservation of fish and wildlife. In addition, in developing and implementing this policy, the Department will be furthering the manifest Congressional policy of Federal-State cooperation that pervades statutory enactments in the area of fish and wildlife conservation. In recognition of the scope of its activities in managing hundreds of millions of acres of land within several States, the Department of the Interior (and BLM) will continue to seek new opportunities to foster a "good neighbor" policy with the States. These policies permit the BLM GDRA and PRRA offices to cooperate with the USFWS, USFS, and the WGFD to plan and implement projects to protect, maintain, and enhance bighorn sheep and other wildlife population habitats within the Laramie Peak HMP Area.

#### .31D.2 Interagency Coordination

Interagency coordination with the Forest Service to implement Sikes Act programs

1. The first part of the report deals with the general situation of the country and the position of the various groups. It is a very general and superficial treatment of the subject, but it gives a good impression of the general state of affairs.

2. The second part of the report deals with the economic situation of the country. It is a very detailed and thorough treatment of the subject, and it gives a good impression of the economic state of affairs.

3. The third part of the report deals with the social situation of the country. It is a very detailed and thorough treatment of the subject, and it gives a good impression of the social state of affairs.

4. The fourth part of the report deals with the political situation of the country. It is a very detailed and thorough treatment of the subject, and it gives a good impression of the political state of affairs.

5. The fifth part of the report deals with the cultural situation of the country. It is a very detailed and thorough treatment of the subject, and it gives a good impression of the cultural state of affairs.

6. The sixth part of the report deals with the military situation of the country. It is a very detailed and thorough treatment of the subject, and it gives a good impression of the military state of affairs.

7. The seventh part of the report deals with the foreign relations of the country. It is a very detailed and thorough treatment of the subject, and it gives a good impression of the foreign relations state of affairs.

8. The eighth part of the report deals with the internal security of the country. It is a very detailed and thorough treatment of the subject, and it gives a good impression of the internal security state of affairs.

9. The ninth part of the report deals with the education of the country. It is a very detailed and thorough treatment of the subject, and it gives a good impression of the education state of affairs.

10. The tenth part of the report deals with the health of the country. It is a very detailed and thorough treatment of the subject, and it gives a good impression of the health state of affairs.

11. The eleventh part of the report deals with the environment of the country. It is a very detailed and thorough treatment of the subject, and it gives a good impression of the environment state of affairs.

12. The twelfth part of the report deals with the transportation of the country. It is a very detailed and thorough treatment of the subject, and it gives a good impression of the transportation state of affairs.

13. The thirteenth part of the report deals with the communication of the country. It is a very detailed and thorough treatment of the subject, and it gives a good impression of the communication state of affairs.

14. The fourteenth part of the report deals with the energy of the country. It is a very detailed and thorough treatment of the subject, and it gives a good impression of the energy state of affairs.

15. The fifteenth part of the report deals with the science and technology of the country. It is a very detailed and thorough treatment of the subject, and it gives a good impression of the science and technology state of affairs.

16. The sixteenth part of the report deals with the sports of the country. It is a very detailed and thorough treatment of the subject, and it gives a good impression of the sports state of affairs.

17. The seventeenth part of the report deals with the recreation of the country. It is a very detailed and thorough treatment of the subject, and it gives a good impression of the recreation state of affairs.

18. The eighteenth part of the report deals with the tourism of the country. It is a very detailed and thorough treatment of the subject, and it gives a good impression of the tourism state of affairs.

19. The nineteenth part of the report deals with the industry of the country. It is a very detailed and thorough treatment of the subject, and it gives a good impression of the industry state of affairs.

20. The twentieth part of the report deals with the agriculture of the country. It is a very detailed and thorough treatment of the subject, and it gives a good impression of the agriculture state of affairs.

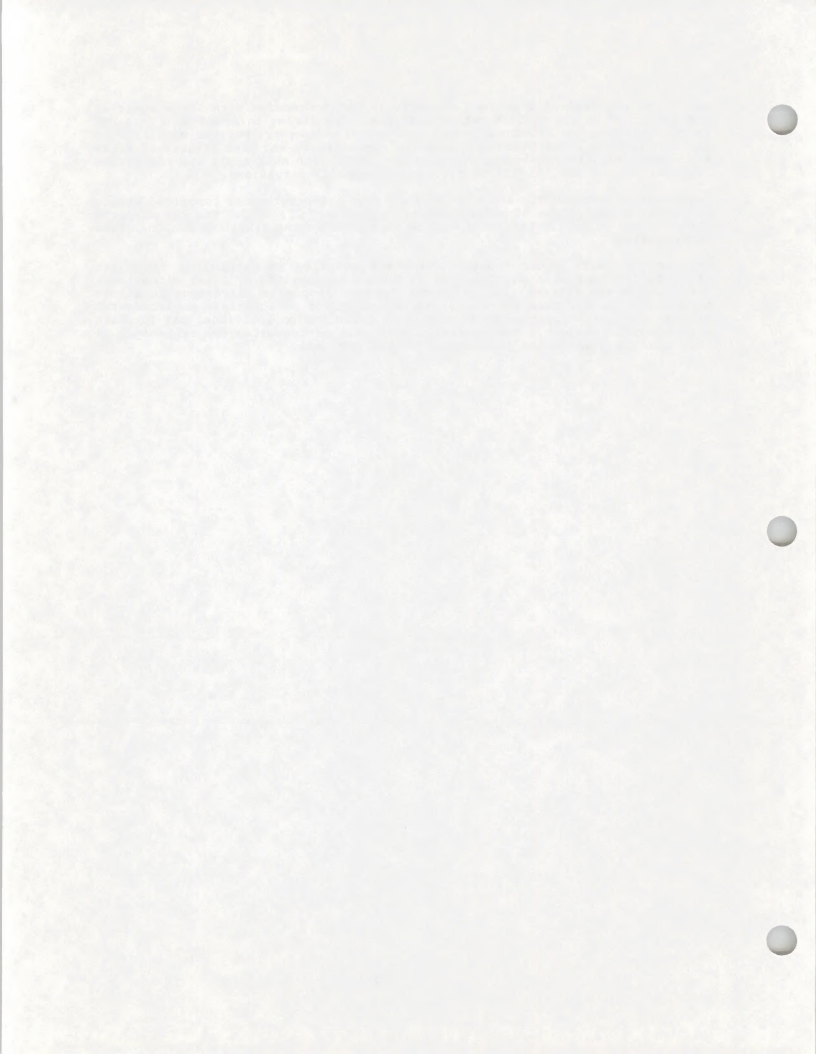


and Sikes Act-Federal Grant and Cooperative Act procedures with State agencies are conducted to the fullest extent possible. The forest involved with this HMP is the Medicine Bow National Forest (see Map 1). However, because of differing BLM-FS enabling legislation, procurement regulations, and past history of Sikes Act work (see.41A), there may be occasions where each must apply its respective legislation and P.L. 95-224 to fit its own special situations.

Coordination between BLM and the FWS for Sikes Act programs is contained within an umbrella memorandum of understanding, signed May 27, 1980. The FWS supports BLM programs on public lands and will be consulted during Sikes Act actions where appropriate.

Coordination with other Federal and State agencies in developing Sikes Act wildlife programs will be conducted as deemed appropriate by local situations. Since there are fifteen (15) different Project Proposals in various locations throughout the HMP Area there will be an assortment of agencies, environmental groups, and local governments that will be consulted on individual EAs for each site-specific project. The general public will be consulted for each major EA that will be planned and implemented in the HMP Area.





### .32 Land Status/Administration

The Laramie Peak HMP is located within several jurisdictions managed by numerous local, State, and Federal agencies. The HMP Area covers approximately 2,045,278 acres (see Table 1) and follows the WGFD Hunt Area 19 (see Maps 1 and 6). It must be noted that in calculating the total land acreage for the HMP Area, there are 18 full and 15 partial quads that are not included in Table 1. An approximation of the missing data (acreage) from these quads has been calculated for the total acreage. The WGFD Hunt Area 19 was utilized as the boundary for this HMP to simplify management capabilities and strategies.

Significant portions of bighorn sheep populations occupy lands within the Douglas Ranger District of the Medicine Bow National Forest, administered by the USFS under the Land and Resource Management Plan, Medicine Bow National Forest and Thunder Basin National Grassland (see .31C, .31D). The BLM public lands in Natrona, Converse, and Platte Counties that are in the HMP Area are currently being administered by the Platte River Resource Area, Casper, Wyoming under the Platte River Resource Area RMP/EIS, signed July 1985. The BLM public lands in Albany and Carbon Counties in the HMP Area are administered by the Great Divide Resource Area, Rawlins, Wyoming, under the Great Divide Resource Area RMP/EIS, signed November 1990. Both RMPs were prepared under the authority and regulations of the Federal Land Policy and Management Act of 1976 (FLPMA) (90 Stat. 2766, 43 U.S.C. 1737). An environmental impact statement (EIS) was prepared for these plans in compliance with the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 et seq.).<sup>1</sup> The WGFD administers the wildlife within the HMP Area under A Strategic Plan for the Comprehensive Management of Wildlife in Wyoming (see Appendix XI).

Table 1 depicts the land status of the Laramie Peak HMP Area showing BLM, USFS, State, and private land surface/mineral ownership and status. Map 1, located on page 2, displays these land ownership patterns for surface areas. It should be noted that there are some quads missing (at this point the acreage in these quads has not been calculated) in Table 1, which accounts for the difference in the total land acreage. In addition, the ownership acreage may change over time depending on land transfer events in the future.

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<sup>1</sup> These documents state that site-specific management actions will be implemented in HMP Areas and cooperative management areas to improve wildlife habitat.

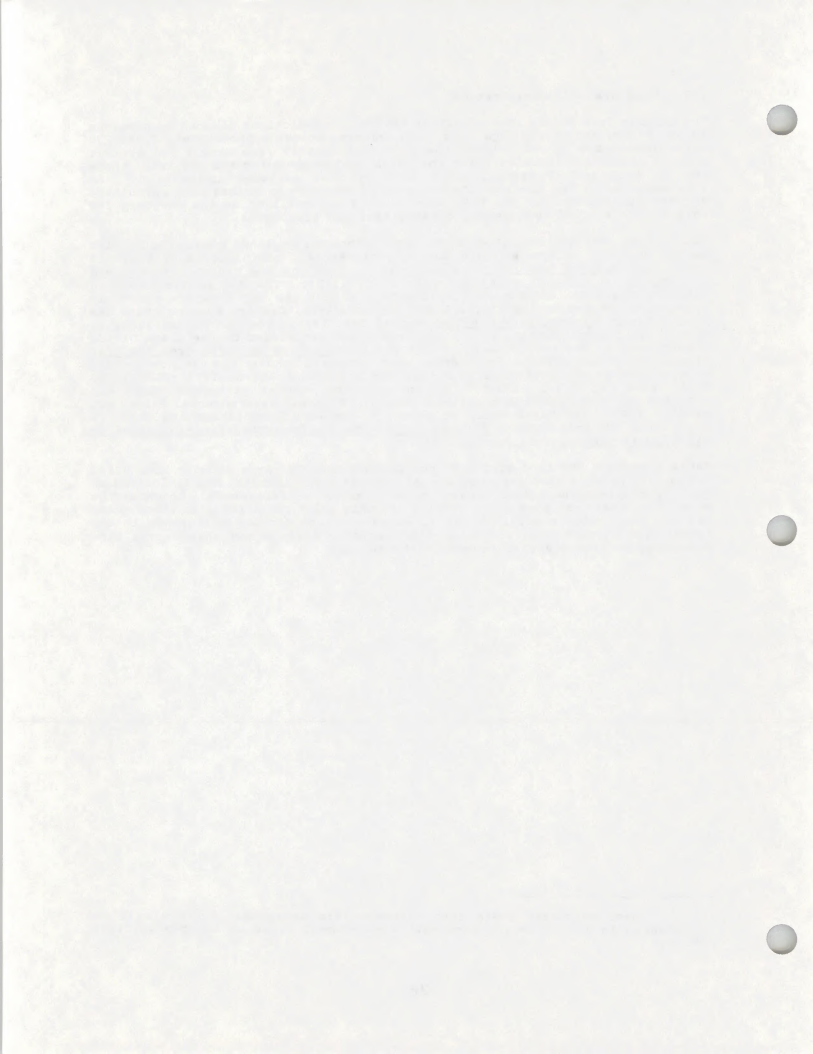


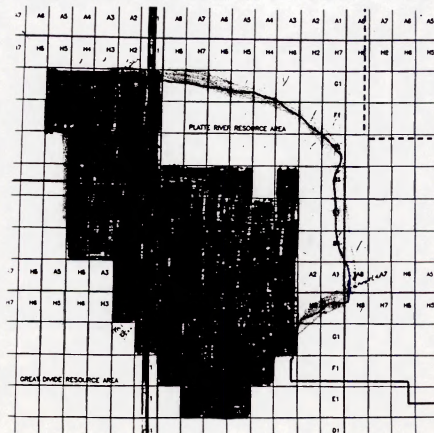
TABLE 1

Land Status/Administrative Acreage Summation

Ownership	Area	Frequency	Percent
USFS Surface*/Minerals	154104.66	167	7.59
BLM Surface/Minerals	349648.62	776	17.23
USFS Surface/Private Minerals	163.57	1	0.01
USFS Surface/State Minerals	1610.65	3	0.08
BLM Surface/State Minerals	798.51	10	0.04
Private Surface/No agency with minerals jurisdiction - Federal subsurface split estate	576380.89	1147	28.39
Private Surface/Private Minerals	706214.33	1252	34.8
Open Water	12749.42	24	0.63
State Surface/Federal-Minerals Split estate	33675.94	117	1.66
State Surface/State Minerals	193912.34	511	9.56
TOTAL	2029258.8 +	4008	99.99

\* Surface land

+ There are missing quads (18 full/15 partial) from the total land acreage. Calculations using information from these quads changes the total acreage to approximately 2,045,278 acres for the HMP Area. The map below depicts the where the missing quads are located.







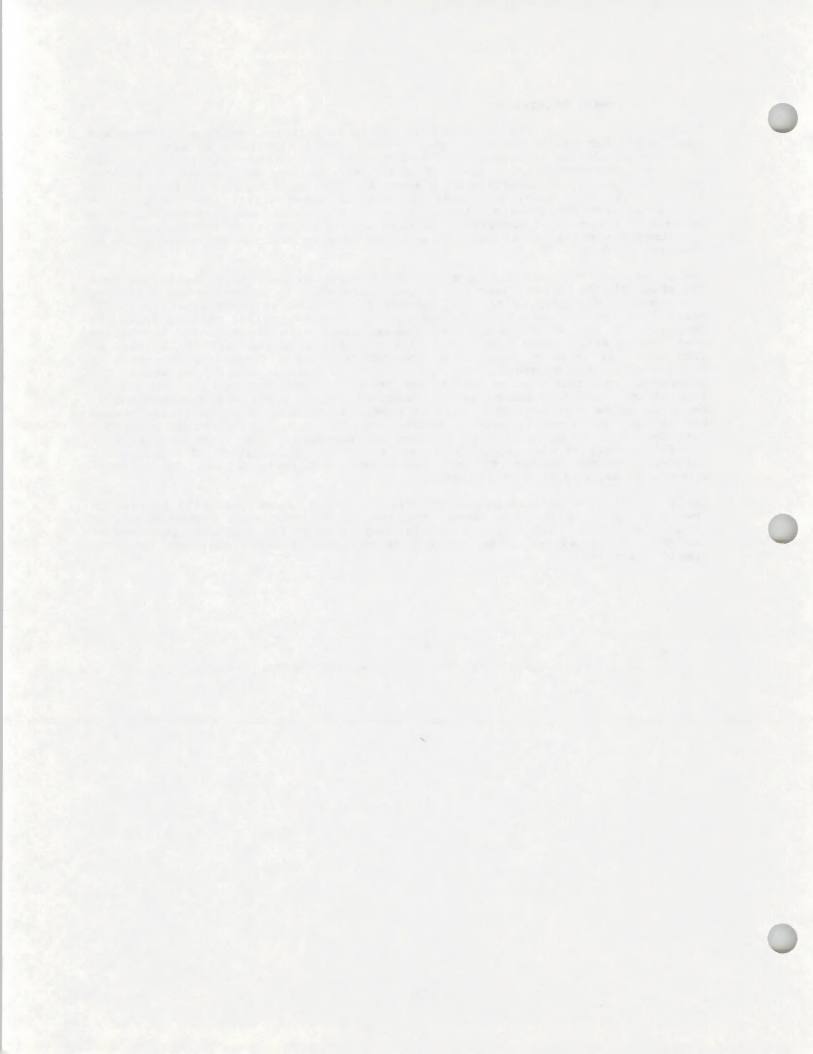
### .33 Management Objective

The main objective of the Laramie Peak HMP is to maintain, restore, improve and enhance habitat conditions for bighorn sheep. The goal will be attained through cooperative efforts between the USFS, BLM, WGFD, ranchers, environmental groups and the general public. The HMP goal will be met by completing several objectives through a diversity of planned actions. The planned actions include fifteen (15) individual site-specific project areas within the HMP boundary within the next 10-15 years. Each plan will be planned, executed and monitored using an Environmental Assessment (EA), under the authority of the NEPA process. The strategic plans within this HMP are predicted to meet the above objective by the year 2010.

The objectives for this plan are to increase the bighorn sheep population from 173 sheep (1993) to 500 sheep by the year 2009-2010, by improving and enhancing the quantity and quality of open, secure foraging areas (approximately 9,000+ acres), adjacent to water and escape cover, in site-specific habitat areas (15 total). Due to the vastness of this area, along with the dynamics of bighorn sheep in general, these objectives will probably take the full 10-15 years to complete. As in most cases, when the habitats for a large ungulate such as bighorn sheep are enhanced, then other wildlife species benefit as well. The planned actions that will be used to complete the objectives include, but are not limited to, prescribed burns, small commercial logging practices, firewood sales, assorted fence modifications, diverse riparian improvement projects (in-stream structures, fence modifications, vegetation plantings), and possible reservoir development. As these planned actions are executed, other factors that will benefit society as a whole, such as land exchanges, acquisition of legal public access, improved hunter success rates and distribution, and recreational opportunities, may also be feasible.

Table 2 depicts a Habitat Management Plan Progress Report that will be used in the Objectives, Planned Actions, and Evaluation/Monitoring segments of the Laramie Peak HMP. Since this table is used in three (3) different portions of the HMP, it is advisable to check back to Table 2 for completion dates on specific actions.

\* put a sentence in not restricting to sites.



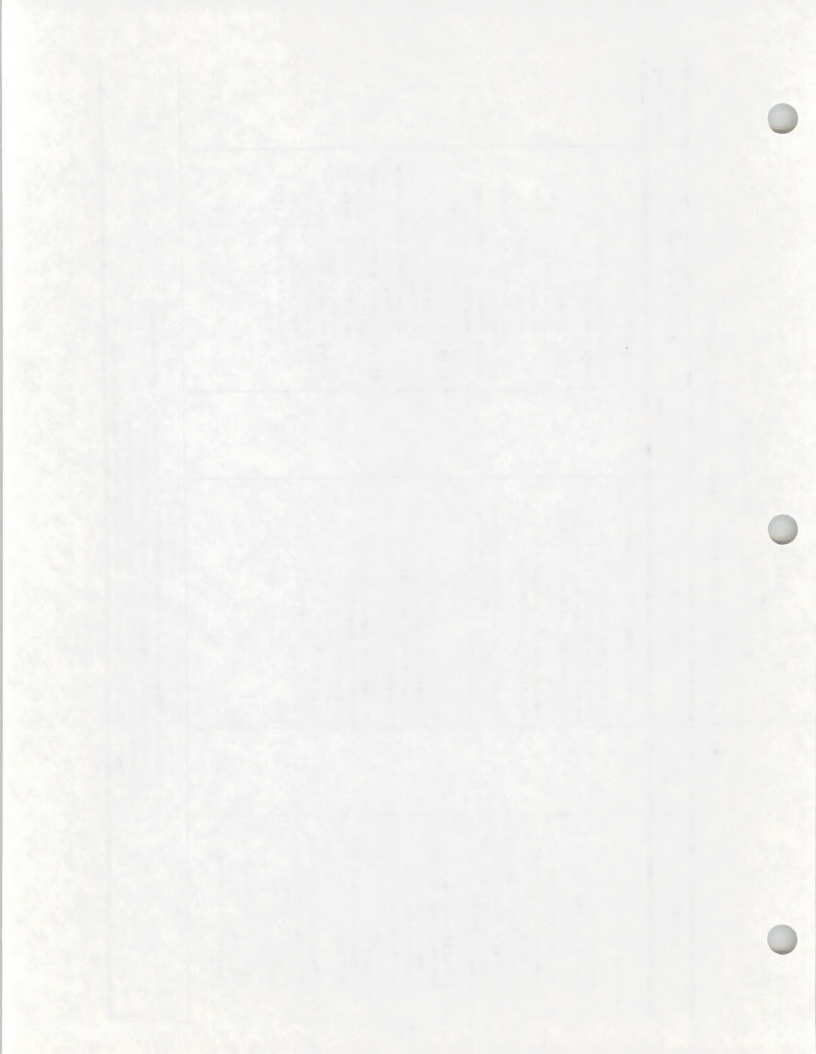
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TABLE 2 HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
<p><b>Laramie Peak HMP</b></p> <p>1. Improve the distribution of bighorn sheep populations and associated genetic diversity by increasing the herd numbers from 173 sheep (1993) to 500 sheep (2010).</p> <p>2. Identify, protect, and enhance bighorn sheep habitat; improve/increase quantity and quality of vegetation/forage areas by approximately 9,000+ acres.</p> <p>3. Pursuit of land exchanges/legal public access, improve hunter success rates/distribution, improve recreational uses.</p>		<p><b>Laramie Peak HMP - General</b></p> <p>Prescribed burns; Small commercial logging; Firewood sales for habitat improvement and diversity.</p> <p>Fence modifications for wildlife movements.</p> <p>Aquatic/wetland improvement using fence modifications, update AMPs, in-stream structures.</p> <p>Riparian improvement: fencing/in-stream structures/vegetation plantings.</p> <p><del>Water</del> Reservoir development: waterfowl nesting structures.</p> <p>Guzzlers Spring development</p>		<p><b>INVENTORIES:</b></p> <p><b>Bighorn sheep habitat requirements:</b></p> <p>(1IH) Forage quantity/quality (winter, spring, summer range)-proximity to escape terrain;</p> <p>(2IH) Water sources near escape terrain;</p> <p>(3IH) Salt/mineral licks;</p> <p>(4IH) Visibility quantity/quality-vegetation types/tree, shrub crown cover;</p> <p>(5IH) Escape terrain (areas within ~ 825 ft. steep, rocky terrain-&gt;80% slope);</p> <p>(6IH) Thermal habitats;</p> <p>(7IH) Use of migration corridors (routes, visibility).</p>	

## INSTRUCTIONS

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List schedule evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.



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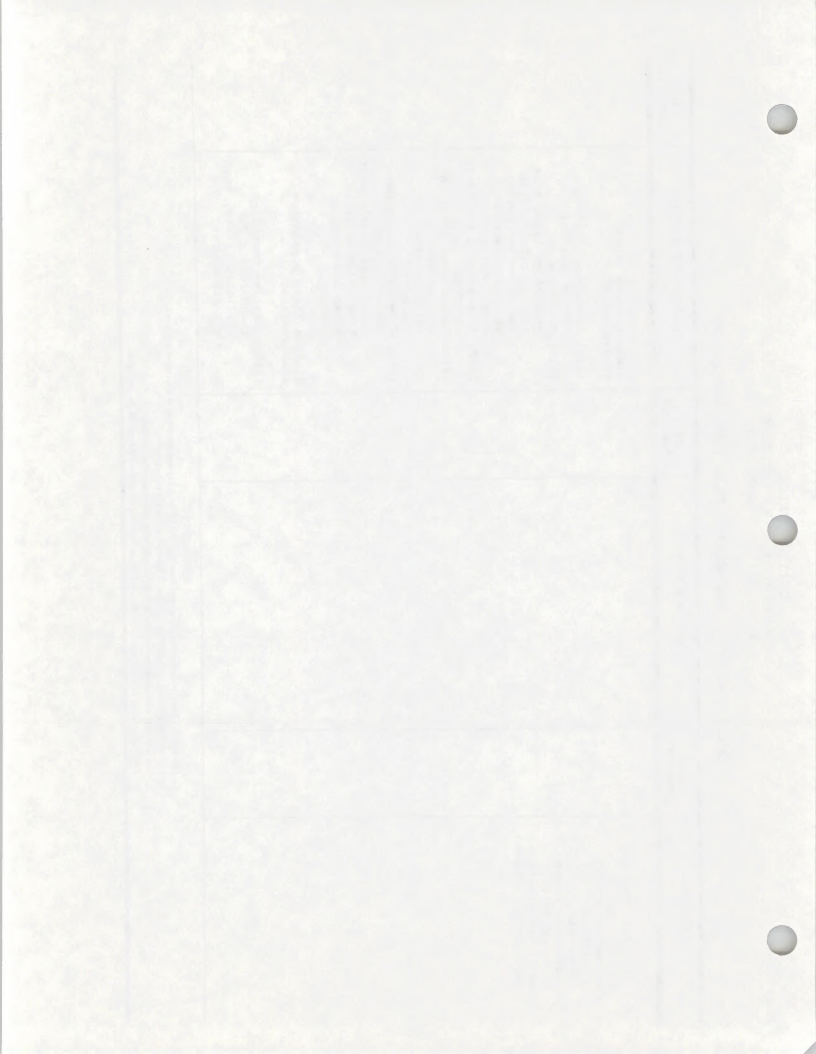
TABLE 2 HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
4. Facilitate habitat manipulation projects through vegetation treatments, prescribed burns, firewood sales, small commercial logging operations.				<p>Bighorn sheep range assessments:</p> <p>(1IR) Abundance of steep escape terrain;</p> <p>(2IR) Abundance of vegetation types that are low growing/open and known to provide sheep forage-near escape terrain;</p> <p>(3IR) Abundance of southerly aspects;</p> <p>(4IR) Annual precipitation and presence of reliable water sources;</p> <p>(5IR) Absence of livestock and other human activities/development that would threaten sheep and sheep habitat.</p> <p>Bighorn sheep population measurements:</p> <p>(1IP) Relative density-trend counts for population sizes, sex-age structure;</p>	

## INSTRUCTIONS

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List schedule evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.





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TABLE 2 HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
				<p>Bighorn sheep population measurements continued:</p> <p>(2IP) Census-classifications summing the maximum unduplicated count for each class;</p> <p>(3IP) Structure-sex-age categories: lambs, yearling males, yearling females, ewes, four classes of rams based on 3/4 curl horn increments.</p> <p><b>MONITORING:</b></p> <p>Bighorn sheep habitat requirements:</p> <p>Changes in quantity/quality (1MH) (4MH);</p> <p>Changes in use (2MH) (3MH) (5MH) (6MH) (7MH)</p> <p>Bighorn sheep range assessments:</p> <p>Changes in quantity/quality (2MR) (4MR)</p> <p>Changes in use (1MR) (2MP) (3MP)</p> <p>Bighorn sheep population measurements:</p> <p>Changes in quantity/quality (1MP) (2MP) (3MP)</p>	

## INSTRUCTIONS

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List schedule evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.

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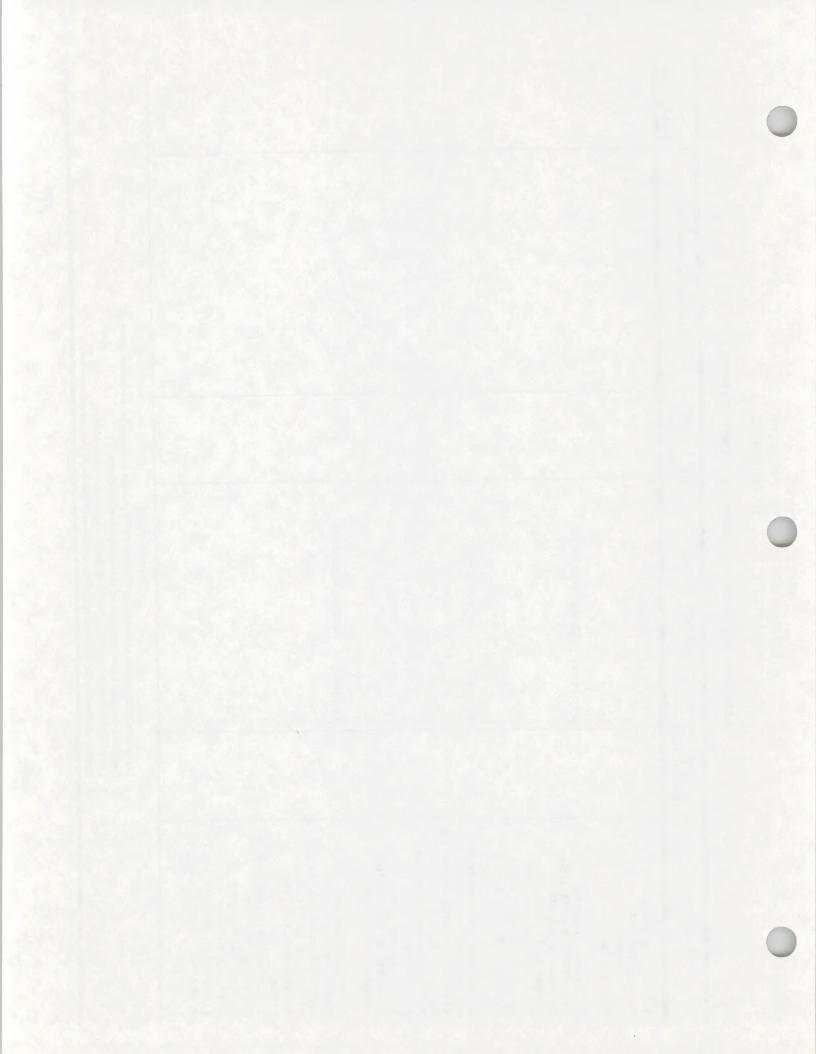
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## HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
1. Remove forest canopy by 90%.		Project: SUGARLOAF			
2. Increase grass production by 75%.					
1. Reduce conifer overstory by 90-100%.		Project: REESE MOUNTAIN			
2. Reduce shrub coverage by 60-70%.					
3. Increase grass production by 75-80% within 3-5 years.					
1. Reduce forest canopy by 90-100% to improve visibility and security for wintering sheep.		Project: SPLIT ROCK			
2. Reduce shrub cover by 60-70%.					
3. Increase grass production by 60-70% within 3-5 years.					
1. Reduce forest canopy cover by 70-80% to increase visibility range and provide escape habitat for sheep.		Project: GREEN MOUNTAIN			
2. Increase mixed shrub cover by 60-70%.					
3. Increase grass forage species production by 60% in 2-3 years.					

## INSTRUCTIONS

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List schedule evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.





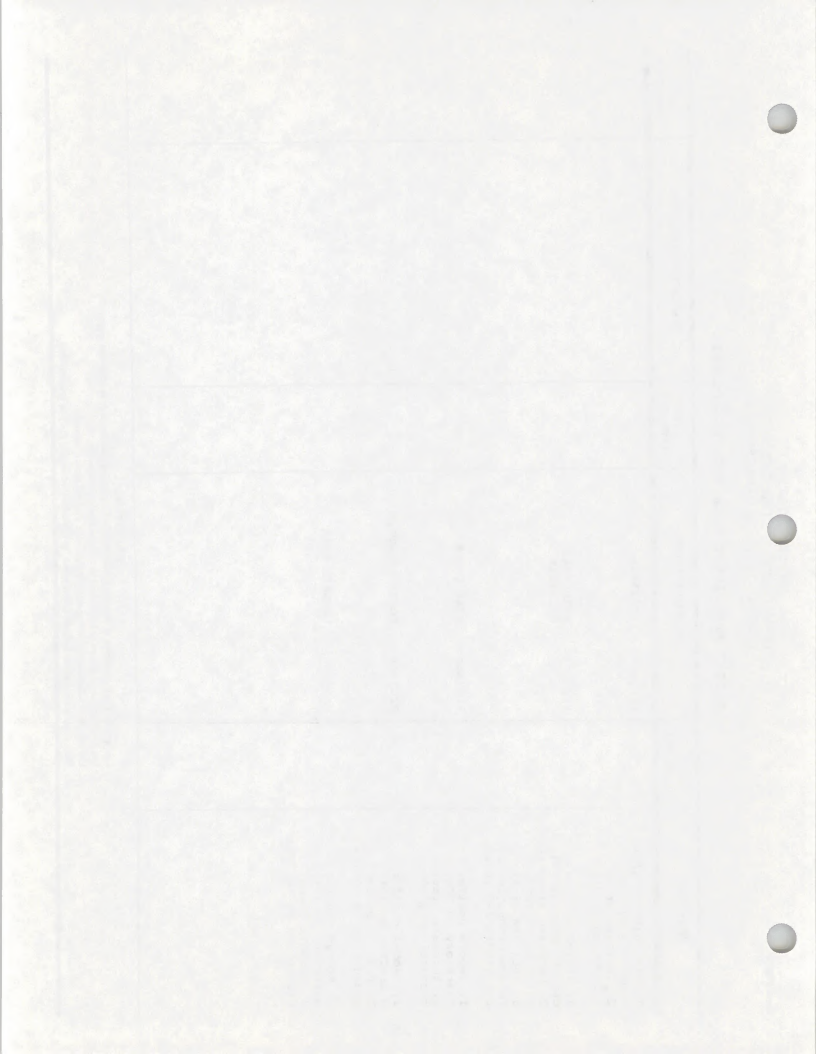
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**HABITAT MANAGEMENT PLAN PROGRESS REPORT**

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
1. Eliminate conifer overstory by 75%. 2. Increase grass production by 75%.		Project: BRITANIA			
1. Decrease forest canopy cover by 80%. 2. Decrease mixed shrub cover by 60-70%. 3. Increase grass forage production by 60% within 2-3 years.		Project: BEAR HEAD MOUNTAIN			
1. Remove conifer overstory by 70%. 2. Increase grass production by 60%.		Project: BEAR CREEK			
1. Remove conifer overstory by 75%. 2. Promote grass production by 60-70%.		Project: SOUTH MOUNTAIN			
1. Remove conifer overstory by 75%. 2. Promote grass production by 60-70%.		Project: LARAMIE PEAK			

INSTRUCTIONS

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
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4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.



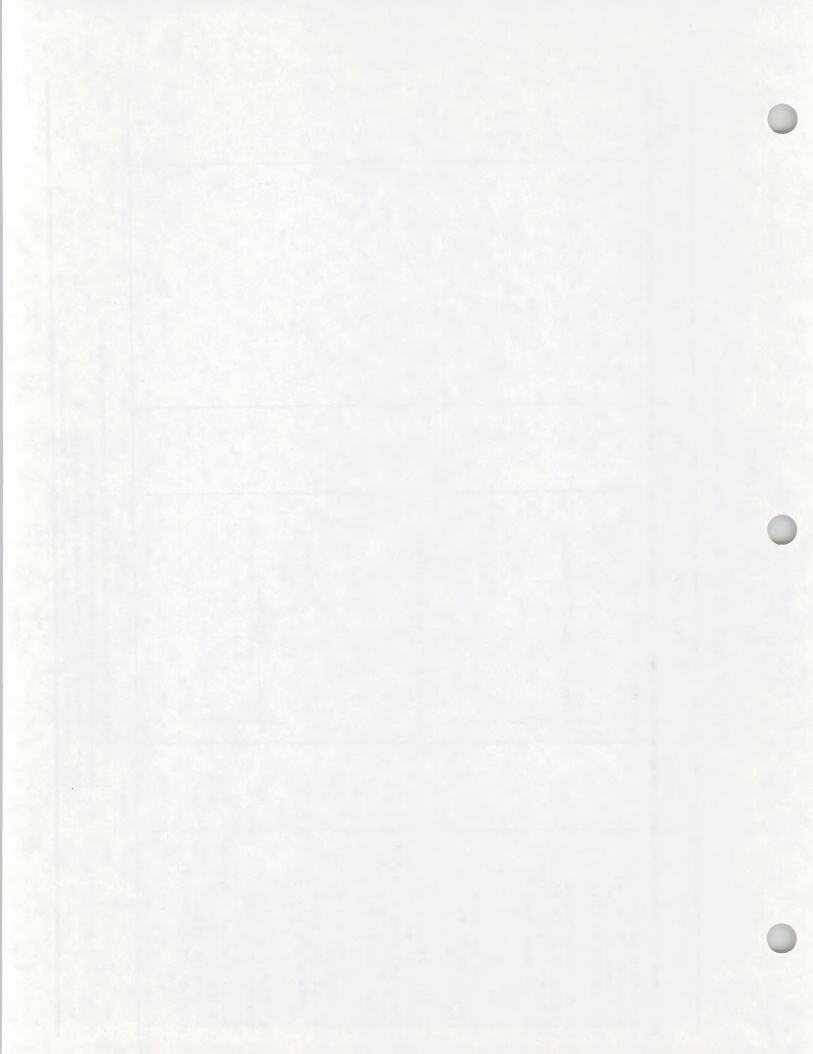
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**HABITAT MANAGEMENT PLAN PROGRESS REPORT**

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
1. Remove conifer overstory by 60-75%. 2. Increase grass production by 50%.  1. Decrease forest canopy cover by 80% to reduce visual barriers and increase escape cover. 2. Reduce shrub cover by 60-70%. 3. Increase grass forage production by 60% in 2-3 years.  1. This project has three (3) burns sites: the objectives in all 3 burns are to decrease forest canopy by 70-80%. 2. Decrease shrub cover by 60-70%. 3. Increase grass forage production by 60-70%.  1. Remove conifer overstory by 70%. 2. Reduce mixed mountain shrub coverage by 50%. 3. Promote grass production by 60-70%.		Project: <b>LOST CREEK</b>   Project: <b>BLACK MOUNTAIN</b>       Project: <b>ROCK MOUNTAIN</b>       Project: <b>TRETHWAY</b>			

**INSTRUCTIONS**

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List schedule evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.



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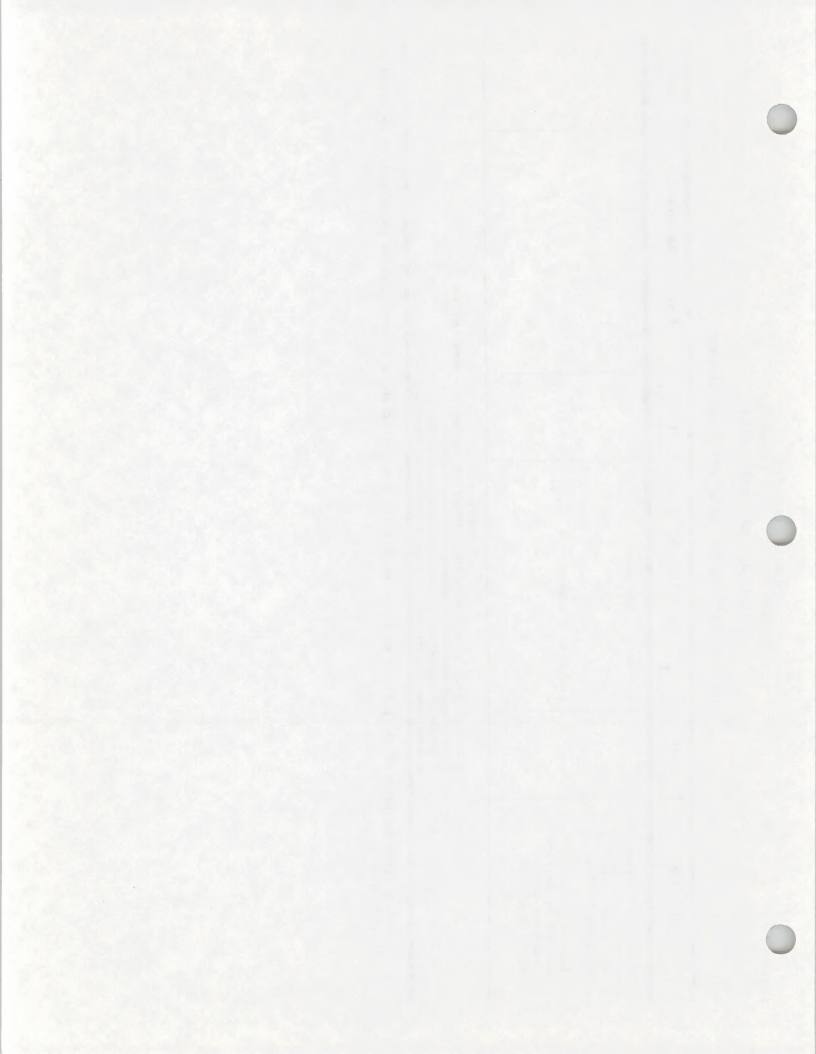
OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
1. Remove ponderosa pine overstory by 75%. 2. Increase grass production by 70%.		Project: <b>SAWTOOTH</b>			
1. Remove conifer overstory by 75-85%. 2. Increase grass production by 75%.		Project: <b>ALBANY</b>			

INSTRUCTIONS

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List schedule evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.

- \* Other sites as identified, planned actions, evaluation and monitoring programs will be permitted if required in the future.





#### .34 Planned Actions

This section of the HMP provides detailed management prescriptions for achieving objectives described under section .33 of the Laramie Peak HMP. As stated previously within this document, the major goal of the HMP Area at this time is to improve the distribution of bighorn sheep populations and associated genetic diversity by increasing and improving the quantity and quality of open, secure foraging areas (preferably adjacent to water and escape cover) in site-specific habitat areas. The objectives are to increase the herd numbers to 500 sheep by improving 9,000+ acres of habitats by the year 2010. There are fifteen (15) areas of concern (proposed project sites) that management objectives, when completed, will accomplish the overall goal of improving bighorn sheep populations in the Laramie Range. Table 2 has a list of objectives and planned actions that can be used for each site-specific area; at this time the exact area of concentration for the site-specific EA has not been selected (this will be done at the team level), therefore, any planned actions, inventory and monitoring mechanisms will be written in Table 2 as each EA is prepared. The completion of these objectives should indirectly maintain, protect, and enhance habitats within the HMP Area for a diversity of other wildlife species. Additional factors that may accrue over the life of this plan include the pursuit of land exchanges, legal public access, improved hunter success rates, other recreational uses, and the public use of further resources (e.g. firewood sales, small commercial logging operations).

#### .34A Description of Actions

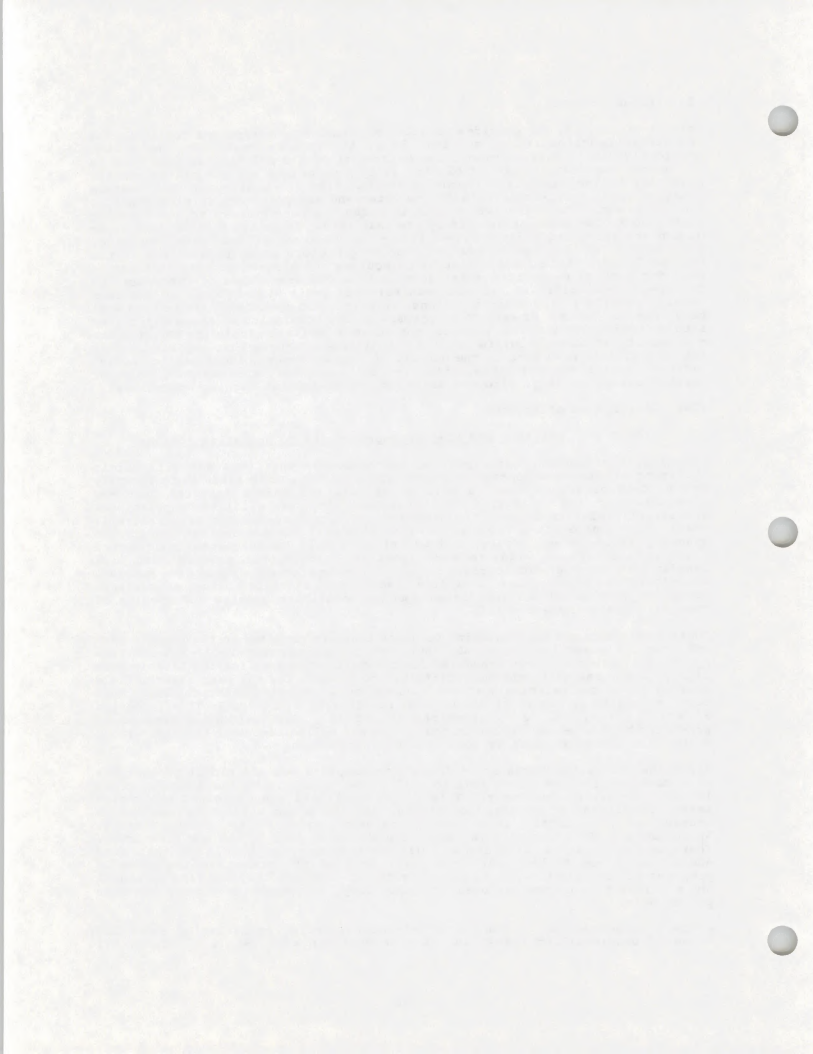
##### .34A.1 Existing and Planned Improvements to Summarize Actions

The general management goal (planned improvements) that this HMP will permit utilizing an ecosystem approach towards improving the public lands is to identify and protect habitat sites, as well as special and unique features that are essential for the viability and sustainability of wildlife populations, specifically bighorn sheep. The diversity of site specific projects that will result from management actions within this plan will provide habitat quality and quantity (food, cover, space, and water) that will be adequate to support a natural diversity of wildlife and fisheries. Additional species that will benefit from an ecosystem approach include big game species, upland game species, waterfowl, non-game species, game fish, neotropical migratory birds, amphibians, reptiles, threatened and endangered species, sensitive species and species of special concern (Appendix III).

Currently, there are some existing projects that are proposed in the Laramie Peak HMP Area. A prescribed burn, BLM Environmental Assessment WY-037-EA0-038 (see Appendix X) which has been scheduled for the Split Rock area for the Laramie Peak bighorn sheep has been extremely difficult to execute for the past several field seasons due to the relatively strict windows (burn operation-restrictions). This burn is located in the south and central portions of T. 24 N., R. 71 W., Section 31 and T. 24 N., R. 72 W., Sections 25 and 36. The proposed action is to prescribe burn sagebrush/grass in the spring and felled timber in the fall within a 400 acre perimeter area as soon as the windows open.

Since the prescribed burns are difficult to complete, an additional project has been designed for the above area to fell timber manually by the BLM fire crews in July, August or September. This project will and has mitigated restricted travel conditions of enclosed corridors that the sheep attempt to utilize as transportation routes from lambing/nursery grounds to forage areas. Approximately 400 trees were felled in the summer of 1993 by the BLM fire crews. There are more areas within the Split Rock prescribed burn area that need additional trees felled. At this point in time the crews are logistically prepared to complete the timber cutting project, however, they are fire personnel and the 1994 fire season has been extremely busy, therefore the project has been put on hold.

A BLM proposed action to conduct a salvage harvesting operation on about 220 acres of beetle-killed forest in the Pine Mountain area (R. 71 W., T. 24 N.,



Secs. 19 and 30; and R. 72 W., T. 24 N., Sec. 25) is in the draft stage at this time. The objectives of this proposal are to improve sheep movement through existing dense corridors, improve vegetative landscape conditions to facilitate future prescribed burning for forest and wildlife objectives, reduce fuel loadings, and to recover a natural resource for human use. The proposed action would be implemented by the issuance of a timber sale contract with applicable stipulations (see .37A). This proposed action is consistent with the Great Divide Resource Management Plan (RMP), approved Nov. 8, 1990.

Proposed activities for the HMP include the projects in the following habitat areas (see map 11):

- Sugarloaf
- Reese Mountain
- Split Rock
- Britannia
- Green Mountain
- Bear Head Mountain
- Bear Creek
- South Mountain
- Laramie Peak
- Albany Peak
- Lost Creek
- Black Mountain
- Rock Mountain
- Trethway
- Sawtooth

.34A.2      Methods and Planned Actions Required to Achieve the HMP Objectives

The objectives will be accomplished through a diversity of site-specific projects that are planned in a logical sequence with a priority detail. The planned actions include the following types of actions: *direct actions* -- these include activities, costs and manpower needs by project to meet specified wildlife objectives; *supporting or facilitating actions* (e.g. roads, fire protection, land exchange) to permit the direct action to be implemented, including cost and manpower needs for the appropriate sub-activity involved; and *mitigation and/or protection actions* (see Appendix VIII).

The direct actions are based on specific criterion for each project which is based upon the following factors:

I.      SIGNIFICANCE

A.      Potential value to sheep:

1.      Winter range
2.      Summer range
3.      Reproductive/parturition range
4.      Travel corridors

B.      Contribution to existing local habitat.

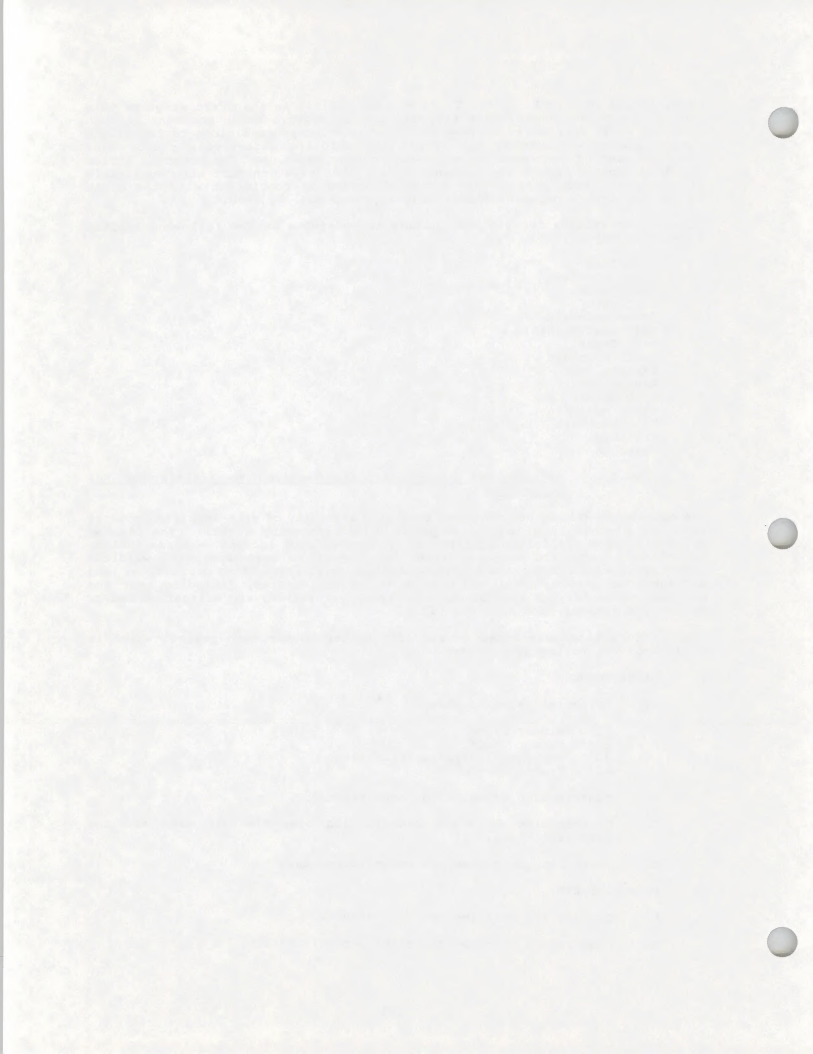
C.      Contribution to sheep distribution over the HMP Area and the WGFD Hunt Areas.

D.      Contribution to sheep movement/interchange.

II.     EFFECTIVENESS

A.      Overall low relative cost per effort.

B.      High return of resource values per unit effort.





- C. Successful completion relative to habitat development for future projects and/or associated program elements.

### III. FEASIBILITY

#### A. Practicality of implementation.

1. Topography
2. Forest cover relative to treatment area site
3. Road/land access

At this point in time, there are fifteen (15) different treatment sites within the HMP Area that have unique objectives, but an overall common goal to improve habitat for bighorn sheep. Management of these sites, utilizing the significance, effectiveness and feasibility tools, will be based upon established priorities that will be mutually agreed upon by the interagency team implementing the projects. Site-specific Environmental Assessments (EAs) will be completed for each project area (treatment site) before any activities occur. Listed below in Table 3 are the different treatment site locations and treatment site ratings that will determine priority actions within the HMP, based upon mutual consent of members of the WGPD, BLM, USFS, other team players, and the general public:

Table 3 Treatment Site Rating for Project Activities

<u>Location</u>	<u>Significance</u>	<u>Effectiveness</u>	<u>Feasibility</u>	<u>Criteria Summation</u>
Sugarloaf	3	3	1	7
Reese Mountain	2	2	1	5
Split Rock	2	2	1	5
Britannia	2	2	3	7
Green Mountain	1	2	3	6
Bear Head Mt.	1	2	2	5
Bear Creek	1	1	2	4
South Mountain	2	3	2	7
Laramie Peak	1	3	3	7
Albany Peak	1	1	1	3
Lost Creek	2	3	3	8
Black Mountain	1	2	2	5
Rock Mountain	1	1	1	3
Trethway	3	2	1	6
Sawtooth	1	2	2	5

1-2 = High

2 = Moderate

3 = Low

Score 3-4 = Priority 1

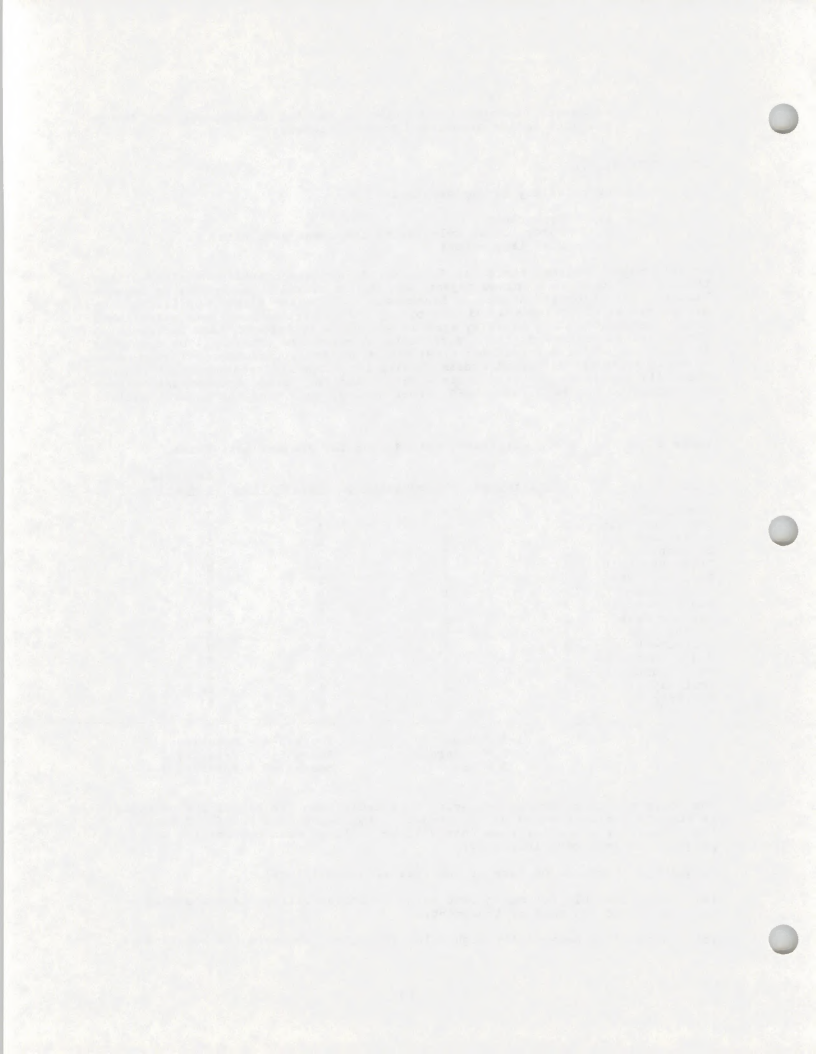
Score 5-6 = Priority 2

Score 7-8 = Priority 3

The lower the total scores are using this table then the higher the priority is for the implementation of the project. Following is a brief discussion that describes the priorities that will be utilized when determining which projects to implement initially.

#### Priority 1 (fits one or more of the following conditions)

- (a) Most feasible for management based on accessibility, landownership patterns and ease of treatment.
- (b) Located in potentially high-value sheep habitat where the benefits of



treatment will best meet population objectives.

- (c) Conflicts with other landowners and resource values are relatively insignificant.
- (d) Areas of greatest need if objectives are to be met within established time frames.

Priority 2 (fits one or more of the following conditions)

- (a) Vegetative manipulation would be more difficult than Priority 1 due to land ownership patterns or accessibility.
- (b) Located in potentially high-value sheep habitat where the benefits will help meet objectives, but the returns will be slightly less than Priority 1 areas.
- (c) Conflicts with other landowners and resource values may require mitigation.
- (d) Areas in need of habitat manipulation if the objectives are to be met within established time frames.

Priority 3 (fits one or more of the following conditions)

- (a) Management and habitat manipulation would be difficult under existing landownership patterns and access or the size of the proposed treatment area makes specific treatment expensive.
- (b) Located in potentially high-value sheep habitat where treatment will help meet objectives.
- (c) Conflicts with other resources may require mitigating actions to reduce the significance to other resources.
- (d) Treatment of Priority 3 areas is important to fully meet objectives, but treatment through prescribed fire is unlikely due to high risk, high value or difficult land patterns.

The treatment areas are based upon desired habitat types to improve bighorn sheep survival as a population. Habitat types are ranked based upon wildlife communities combined with the availability of each type (see Table 4). Utilizing the habitat types in a priority ranking system, the different activities implemented for bighorn sheep can be decided upon based on desired vegetation complexes.



**TABLE 4**  
**RANKING OF STANDARD HABITAT TYPES**

HIGH PRIORITY	MODERATE PRIORITY	LOW PRIORITY
Open aquatic grasslands	Greasewood-sagewood riparian	Short
Riparian grassland steppe	Big sagebrush-rabbitbrush	Saltbush
Willow-waterbirch riparian	Bitterbrush	Greasewood
Aspen riparian	Sagebrush-mixed grass	Badland
Cottonwood riparian dunes	Silver sagebrush steppe	True sand
Mountain shrub meadows	Lodgepole pine	Upland
Utah juniper	Limber pine	
Quaking aspen	Early successional conifer	
Aspen conifer	Rockland	
Ponderosa pine/Douglas-fir	Saline sub-irrigated grassland	
Platte Valley rockland		
Laramie Peak rockland		
Wet forested meadow		

NOTE: Ranking is based on the wildlife communities (total species, number of breeders, number of rare species) combined with the availability of each type.

<sup>1</sup> High priority habitats are those that require intensive-management actions (data collection, enhancement, protection) to maintain their productivity as diverse wildlife communities; moderate-priority habitats are those that require less intensive management to maintain their productivity as wildlife communities; low-priority habitats are those that can be more heavily used by conflicting resources so that the higher priority wildlife habitats can be maintained.

Summarized below are the locations of the proposed habitat treatment sites (planned actions) described in a logical sequence (priority order) for implementation to achieve each objective:

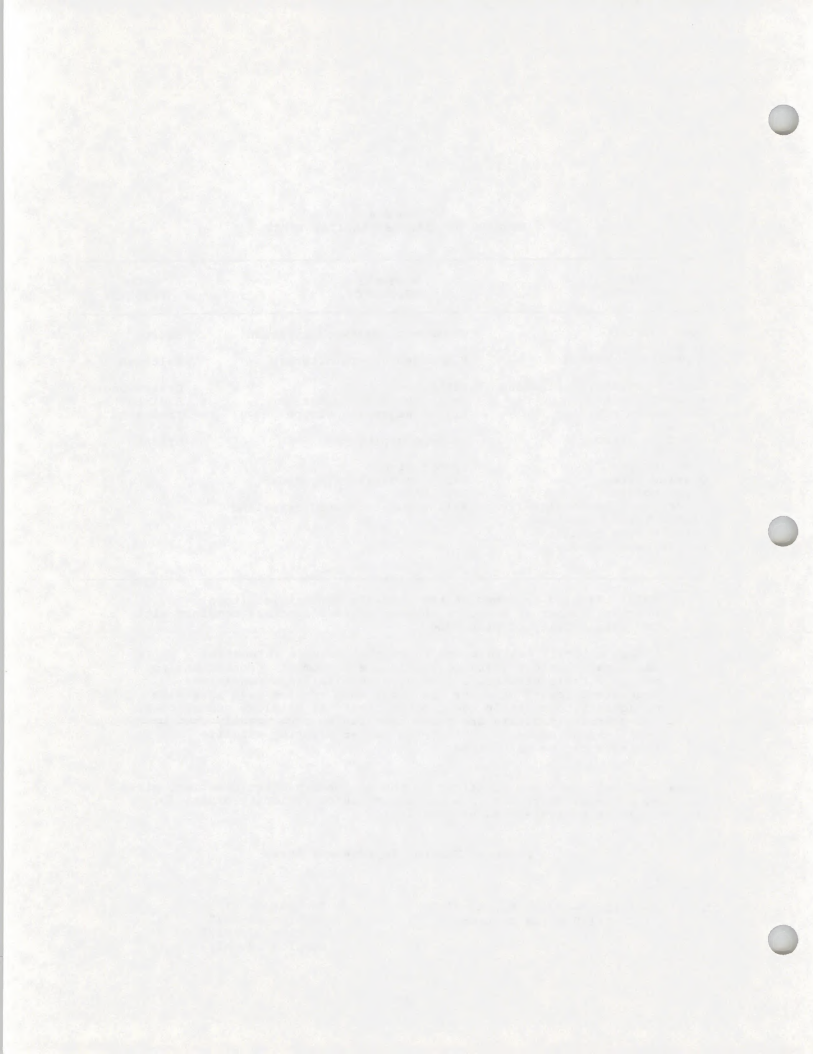
#### Proposed Habitat Improvement Areas

##### Priority

- 1 Sugarloaf - T. 23 N., R. 71 W.  
(1120 acres optimum)

Section 7: S1/2  
Section 8: S1/2  
Section 17: N1/2  
Section 18: N1/2





2	Reese Mountain - T. 24 N., R. 71 W. (500 acres optimum)	Section 33: SW1/4; S1/2NE1/4 Section 34: S1/2N1/2; N1/2S1/2 Section 31: All
2	Split Rock - T. 24 N., R. 71 W. (640 acres optimum)	
3	Green Mountain - T. 24 N., R. 71 W. (640 acres optimum)	Section 2: N1/2, Section 3: SE1/4 Section 33: SW1/4; S1/2NE1/2
3	Britannia - T. 25 N., R. 71 W. (240 acres optimum) (640 acres optimum)	Section 3: SE1/4 Section 25: E1/2
2	Bear Head Mountain - T. 26 N., R. 72 W. (400 acres optimum)	Section 27: NE1/4
1	Bear Creek - T. 26 N., R. 72 W. (160 acres optimum)	
3	South Mountain - T. 26 N., R. 72 W. (500-600 acre optimum)	Section 10: W1/2 Section 15: W1/2 Section 2: NW1/4 Section 35: SE1/4 Section 3: NE1/4NE1/4 Section 35:
3	Laramie Peak - T. 26 N., R. 72 W. T. 27 N., R. 72 W. (200-600 acres optimum)	
1	Albany Peak - T. 27 N., R. 71 W. (640 acres optimum)	
3	Lost Creek - T. 27 N., R. 72 W. (300 acres optimum)	Section 25: E1/2NW1/4 Section 24: SE1/4 Section 16: SW1/4 Section 11: SE1/4 Section 20: NE1/4NE1/4 Section 28: Section 32: NE1/4NE1/4 Section 33: NW1/4 Section 4: N1/2NE1/4 Section 33: SE1/4
2	Black Mountain - T. 27 N., R. 71 W. (360-400 acres optimum)	
1	Rock Mountain - T. 28 N., R. 71 W. T. 28 N., R. 71 W. T. 27 N., R. 71 W. T. 28 N., R. 71 W. (960 acres optimum)	
3	Trethway - T. 27 N., R. 73 W. (300 acres optimum)	Section 2: N1/2
1	Sawtooth - T. 28 N., R. 73 W. (600-1,000 acres optimum)	Section 10: SE1/4 Section 11: SW1/4 Section 15: E1/2 Section 22:

Listed below are the site-specific activities relative to location, management goals, specific objectives, size and ownership of project sites, topography, and vegetation types at the site (see Map 11). Individual EAs will be planned and implemented on an ecosystem and interagency basis for each site.

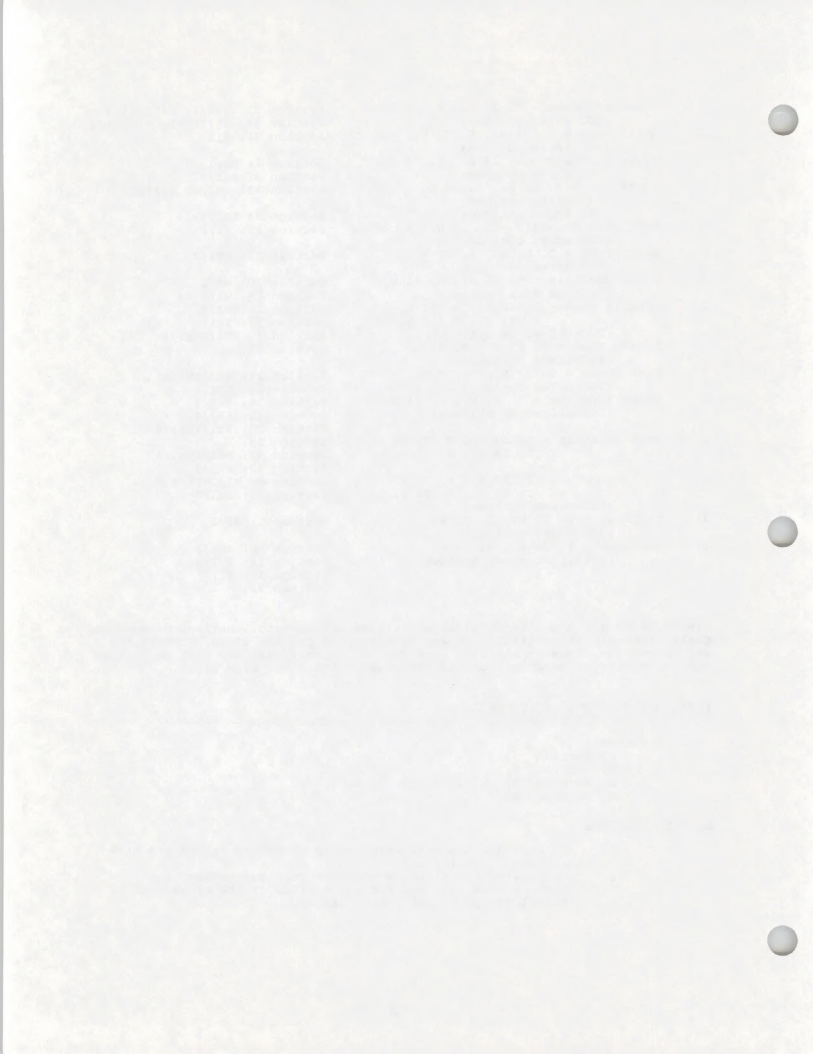
## PROJECT - SUGARLOAF

### Location:

- S2 Section 7)
- S2 Section 8)
- N2 Section 17) T. 23 N., R. 71 W.
- N2 Section 18)

### MANAGEMENT GOALS

1. To increase the quality/quantity of summer forage and size of lambing areas; and
2. To provide for a usable movement corridor between the Laramie Peak Unit and the south slope of the ridge east of Sugarloaf (potential winter range).



#### SPECIFIC OBJECTIVES

1. To remove forest canopy by 90 percent.
2. To increase grass production by 75 percent.

#### SIZE AND OWNERSHIP

120 acres - state  
720 acres - BLM  
280 acres - WFGD  
1,120 acres

(proposed burn will encompass approximately 50 percent of the total acreage)

#### TOPOGRAPHY

elevation: 6400' - 7600'  
x slope: 45 percent  
aspect: N

#### VEGETATION TYPES

upper slopes - ponderosa pine  
lower slopes - mixed mountain foothills shrub

#### Additional Comments:

Potential commercial harvest areas.

### PROJECT - REESE MOUNTAIN

#### Location:

SW1/4            Section 33)  
S1/2NE1/4      Section 33)  
S1/2N1/2       Section 34)    T. 24 N., R. 71 W.  
N1/2S1/2       Section 34)

#### MANAGEMENT GOALS

1. To improve winter range forage; and
2. To improve security (visibility).

#### SPECIFIC OBJECTIVES

1. To reduce conifer overstory by 90-100 percent.
2. To reduce shrub coverage by 60-70 percent.
3. To increase grass production by 75-80% within 3-5 years.

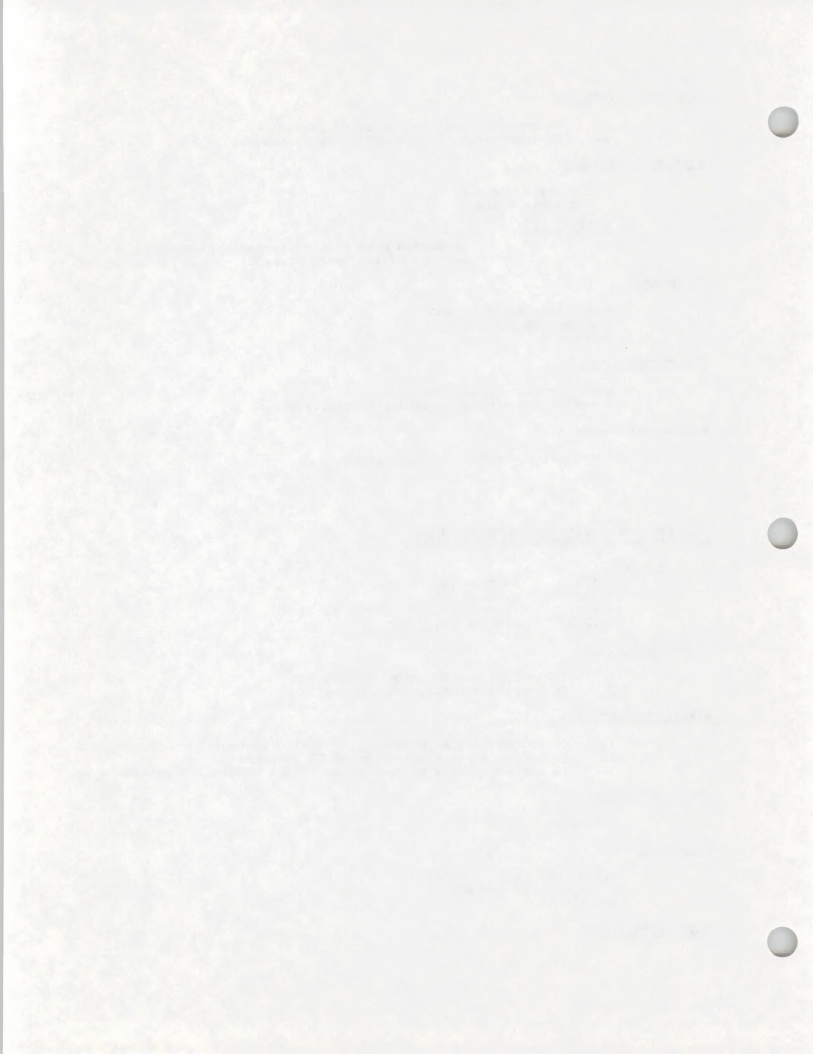
#### SIZE AND OWNERSHIP

500 acres - USFS

#### TOPOGRAPHY

elevation: 6400' - 7600'  
x slope:  $\pm$  40 percent  
aspect: SE

#### VEGETATION TYPES





upper slopes - Ponderosa pine  
lower slopes - mixed mountain foothills shrubs

Additional Comments:

## PROJECT - SPLIT ROCK

Location:

Section 31 All, T. 24 N., R. 71 W.

### MANAGEMENT GOALS

1. To increase and improve winter range.

### BURN OBJECTIVES

1. Reduce forest canopy by 90-100 percent to improve visibility and security for wintering sheep.
2. Reduce shrub cover by 60-70 percent.
3. Increase grass production by 60-70 percent within 2-3 years.

### SIZE AND OWNERSHIP

480 acres - BLM

160 acres - WGFD

640 acres

(proposed burn will encompass approximately 50 percent of the total acres)

### TOPOGRAPHY

elevation: 7000'- 8300'

x slope: 40 percent

aspect: S

### VEGETATION TYPES

Upper slopes - ponderosa pine

lower slopes - mixed shrub

Additional Comments:

## PROJECT -GREEN MOUNTAIN

Location:

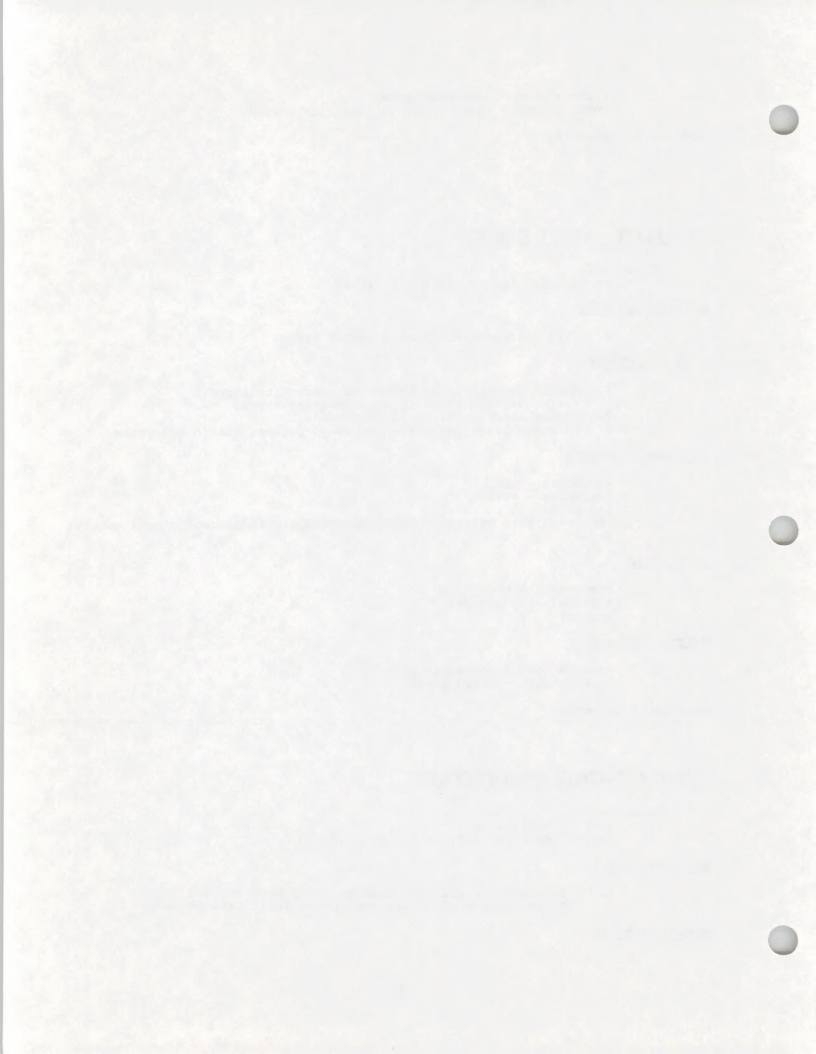
N1/2 Section 2)

SE1/4 Section 3) T. 24 N., R. 71 W.

### MANAGEMENT GOALS

1. To create or increase bighorn sheep habitat; and
2. To increase sheep distribution and facilitate movement.

### BURN OBJECTIVES



1. Reduce forest canopy cover by 70-80 percent to increase visibility range thereby providing escape habitat for sheep.
2. Increase mixed shrub cover by 60-70 percent.
3. Increase grass forage species production by 60 percent in 2-3 years.

#### SIZE OF OWNERSHIP

640 acres - Private (belonging to Chuck Shellhorst)

#### TOPOGRAPHY

elevation range: 6800' - 7700'  
 average slope: 34 percent  
 aspect: mostly S to SE, some E

#### VEGETATION TYPES

upper slopes - mostly ponderosa pine  
 lower slopes - some mixed shrub (25 percent of area)

Additional Comments:

### PROJECT - BRITANIA

Location:

SW1/2 Section 33: T. 25 N., R. 71 W.  
 SW1/4 Section 33: T. 25 N., R. 71 W.

#### MANAGEMENT GOALS

1. To provide for winter forage near escape cover;
2. To increase bighorn sheep distribution; and
3. To facilitate bighorn sheep movement.

#### SPECIFIC OBJECTIVES

1. To eliminate conifer overstory by 75 percent.
2. To increase grass production by 75 percent.

#### SIZE AND OWNERSHIP

280 acres - USFS  
 600 acres - Private  
 880 acres

#### TOPOGRAPHY

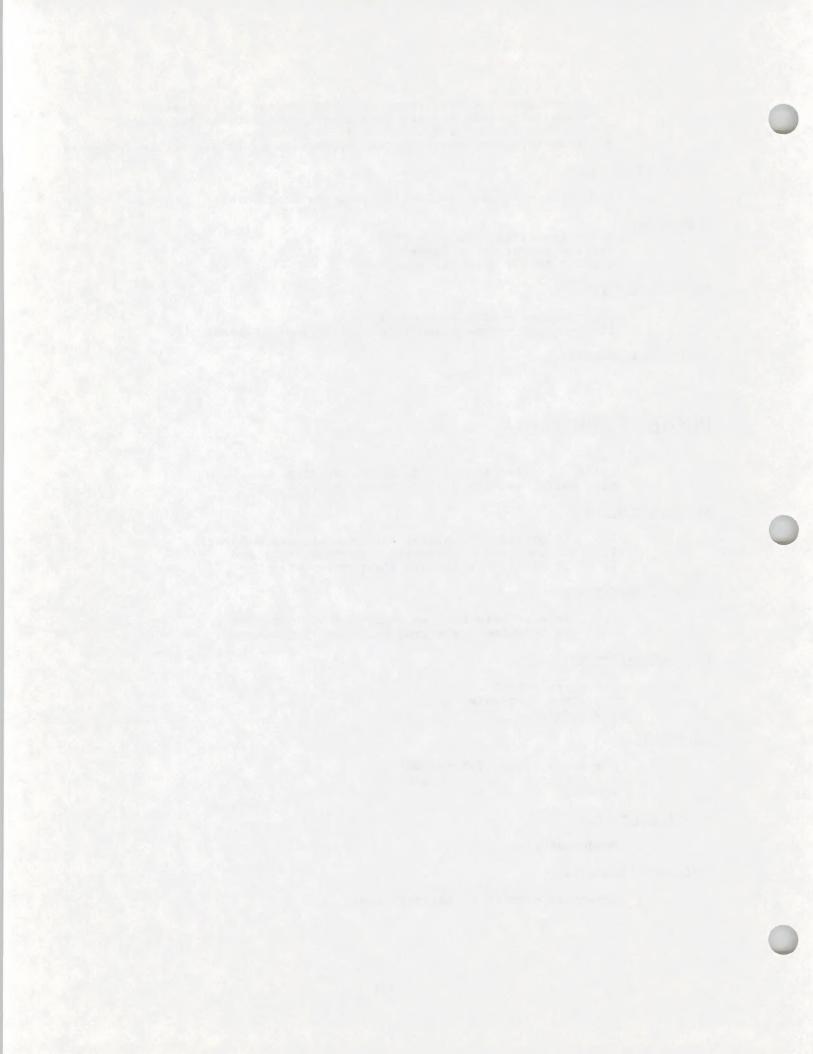
elevation range: 7300'-7900'  
 x slope: 23 percent  
 aspect: SE

#### VEGETATION TYPES

Ponderosa pine

Additional Comments:

Potential commercial harvest area.



## PROJECT - BEAR HEAD MOUNTAIN

### Location:

E1/2 Section 23  
W1/2 NW1/4 Section 24 T. 26 N., R. 72 W.

### MANAGEMENT GOAL

1. To increase sheep winter range; and
2. To increase sheep distribution.

### SPECIFIC BURN OBJECTIVES

1. Decrease forest canopy cover by 80 percent.
2. Decrease mixed shrub cover by 60-70 percent.
3. Increase grass forage production by 60 percent within 2-3 years.

### SIZE AND OWNERSHIP

400 acres - USFS

### TOPOGRAPHY

elevation range: 7200'-8200'  
average slope: 38 percent  
aspect: SE

### VEGETATION TYPES

Ponderosa pine and mixed shrubs. Varying percentages of each depending on elevation (i.e., lower elevations contain a greater percentage of shrubs than upper elevations).

Additional Comments:

## PROJECT - BEAR CREEK

### Location:

NE1/4 Section 27: T. 26 N., R. 72 W.

### MANAGEMENT GOALS

1. To increase bighorn sheep summer range;
2. To increase bighorn sheep lambing areas; and
3. To increase bighorn sheep winter range.

### SPECIFIC OBJECTIVES

1. Remove conifer overstory by 70%.
2. Increase grass production by 60%.

### SIZE AND OWNERSHIP

160 acres - Private

### TOPOGRAPHY

elevation range: 6600'-7300'  
x slope; 40-50 percent



# THE DEPARTMENT OF THE ARMY

OFFICE OF THE SECRETARY OF THE ARMY

WASHINGTON, D. C. 20315

MEMORANDUM FOR THE SECRETARY OF THE ARMY

SUBJECT: [Illegible]

1. [Illegible]

2. [Illegible]

3. [Illegible]

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26. [Illegible]

27. [Illegible]

28. [Illegible]

29. [Illegible]

30. [Illegible]

aspect: SW and E

VEGETATION TYPES

Ponderosa pine woodland mixed with the mountain foothills shrubs.

Additional Comments:

PROJECT - SOUTH MOUNTAIN

Location:

W1/2 Section 10: T. 26 N., R. 72 W.

W1/2 Section 15: T. 26 N., R. 72 W.

MANAGEMENT GOALS

1. To create bighorn sheep winter range; and
2. To increase bighorn sheep distribution.

SPECIFIC OBJECTIVES

1. Remove conifer overstory by 75%.
2. Promote grass production by 60-70%.

SIZE AND OWNERSHIP

500-600 acres - USFS

TOPOGRAPHY

elevation range : 7200'-8100'

x slope: 68 percent

aspect: E

VEGETATION TYPES

ponderosa pine

lodgepole pine —

Additional Comments:—

PROJECT - LARAMIE PEAK

Location:

SE1/2 Section 35: T. 27 N., R. 72 W.

NE1/4NE1/4 Section 3: T. 26 N., R. 72 W.

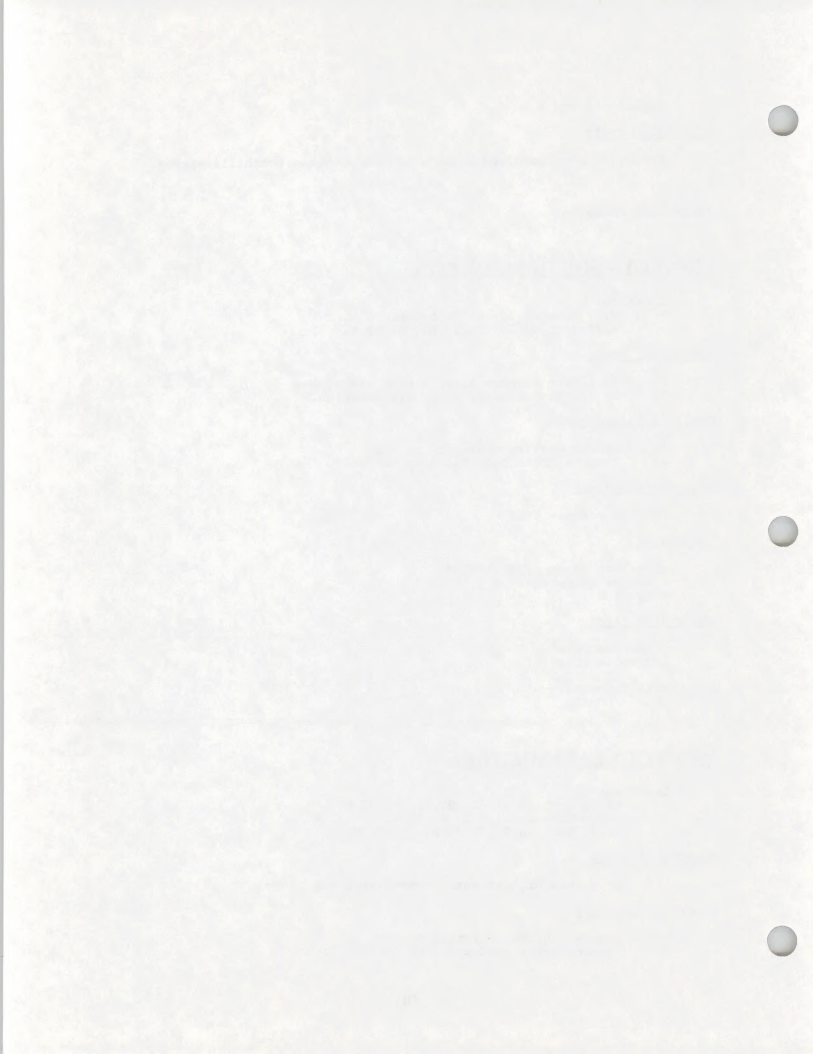
NW1/2 Section 2: T. 26 N., R. 72 W.

MANAGEMENT GOALS

1. To create bighorn sheep summer-yearlong range.

SPECIFIC OBJECTIVE

1. Remove conifer overstory by 75%.
2. Promote grass production by 60-70%.



SIZE AND OWNERSHIP

200-600 acres - USFS

TOPOGRAPHY

elevation range: 8700'-9700'  
x slope: 47 percent  
aspect: SE

VEGETATION TYPES

lodgepole pine

Additional Comments:

PROJECT - LOST CREEK

Location:

NE1/4NW1/4 Section 25  
SE1/4NW1/4 Section 25 T. 27 N., R. 72 W.  
SE1/2 Section 24

MANAGEMENT GOALS

1. To increase bighorn sheep summer range; and
2. To create bighorn sheep lambing areas.

SPECIFIC OBJECTIVES

1. Remove conifer overstory by 60-75%.
2. Increase grass production by 50%.

SIZE AND OWNERSHIP

300 acres - USFS

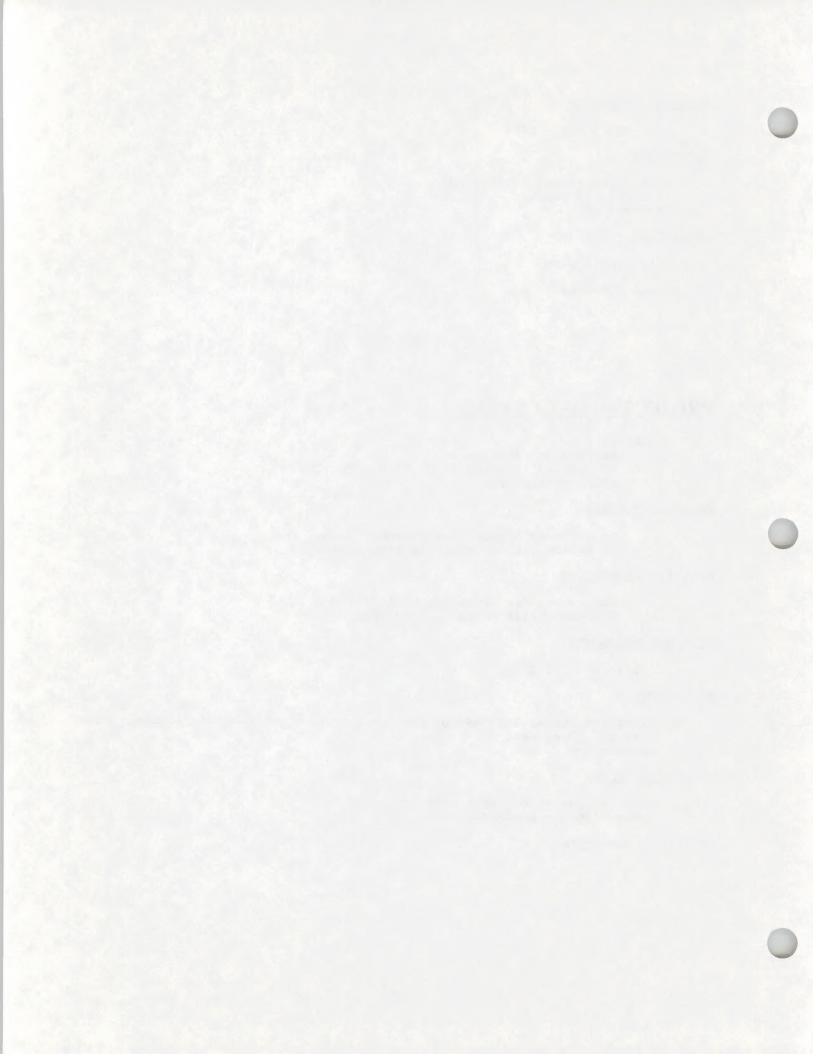
TOPOGRAPHY

elevation range: 7500'-9000'  
x slope: 57 percent  
aspect: N-E

VEGETATION TYPES

upper slopes - lodgepole pine  
lower slopes - ponderosa pine

Additional Comments:





## PROJECT - BLACK MOUNTAIN

### Location:

SW1/4 Section 16  
SE1/4 Section 19 T. 27 N., R. 71 W.  
NE1/4NE1/4 Section 20

### MANAGEMENT GOALS

1. To create and/or improve summer and year-round sheep range.

### BURN OBJECTIVES

1. Decrease forest canopy cover by 80 percent to reduce visual barriers and increase escape cover.
2. Reduce shrub cover by 60-70 percent.
3. Increase grass forage production by 60 percent in 2-3 years.

### SIZE AND OWNERSHIP

160 acres - State of Wyoming  
200 acres - USFS  
360

### TOPOGRAPHY

elevation range: 7250'-8030'  
average slope: 59 percent  
aspect: S to SE

### VEGETATION TYPES

Conifer overstory - ponderosa pine at lower elevations to lodgepole pine and spruce fir at higher elevations.

Additional Comments:

## PROJECT - ROCK MOUNTAIN

(3 separate burn areas)

### Location:

Unit No. 1 - Section 28 T. 28 N., R. 71 W.  
Unit No. 2 - NENE Section 32  
NW1/4 Section 33 T. 28 N., R. 71 W.  
Unit No. 3 SE1/4 Section 33 T. 28 N., R. 71 W.  
NENW Section 4  
NWNE Section 4 T. 27 N., R. 71 W.  
NENE Section 4

### MANAGEMENT GOALS

#### Burn No. 1:

1. To open a migration corridor and create and/or enhance summer, yearlong and lambing habitat for sheep.

#### Burn No. 2:

1. To create and/or improve winter habitat for sheep.

#### Burn No. 3:

1. To create and/or improve yearlong habitat for sheep.

5-10-2010

5-10-2010

### BURN OBJECTIVES

Objectives in all three burns are to decrease forest canopy by 70-80 percent, decrease shrub cover by 60-70 percent and increase grass forage production by 60-70 percent.

### SIZE AND OWNERSHIP

#### Burn No. 1

40 acres - Private  
600 acres - USFS

#### Burn No. 2

200 acres - USFS

#### Burn No. 3

120 acres - USFS

### TOPOGRAPHY

#### Burn No. 1

elevation range: 5900'-7200'  
average slope: 30 percent  
aspect: N

#### Burn No. 2

elevation range: 6600'-7200'  
average slope: 27 percent  
aspect: S

#### Burn No. 3

elevation range: 6700'-7100'  
average slope: 30 percent  
aspect: Ridgetop - E, W and S aspects

### VEGETATION TYPES

All three burns are varying mixtures of ponderosa pine and mixed shrub.

Additional Comments:

## PROJECT - TRETHWAY

#### Location:

NW Section 2: T. 27 N., R. 73 W.  
NE Section 2: T. 27 N., R. 73 W.

### MANAGEMENT GOALS

1. To enhance bighorn sheep summer range.

### SPECIFIC OBJECTIVES

1. Remove conifer overstory by 70%.



2. Reduce mixed mountain shrub coverage by 50%.
3. Promote grass production by 60-70%.

#### SIZE AND OWNERSHIP

300 acres - USFS

#### TOPOGRAPHY

elevation range: 7700'-8200'  
x slope: 23 percent  
aspect: SE

#### VEGETATION TYPE

mixed ponderosa woodland/mixed mountain foothills shrubs

Additional Comments:

### PROJECT - SAWTOOTH

#### Location:

Section 22	
E Section 15	T. 28 N, R. 73 W.
SE Section 10	
SW Section 11	

#### MANAGEMENT GOALS

1. To increase bighorn sheep summer range; and
2. To create bighorn sheep lambing areas.

#### SPECIFIC OBJECTIVES

1. Remove ponderosa pine overstory by 75 percent.
2. Increase grass production by 70 percent.

#### SIZE AND OWNERSHIP

600-1,000 acres - USFS

#### TOPOGRAPHY

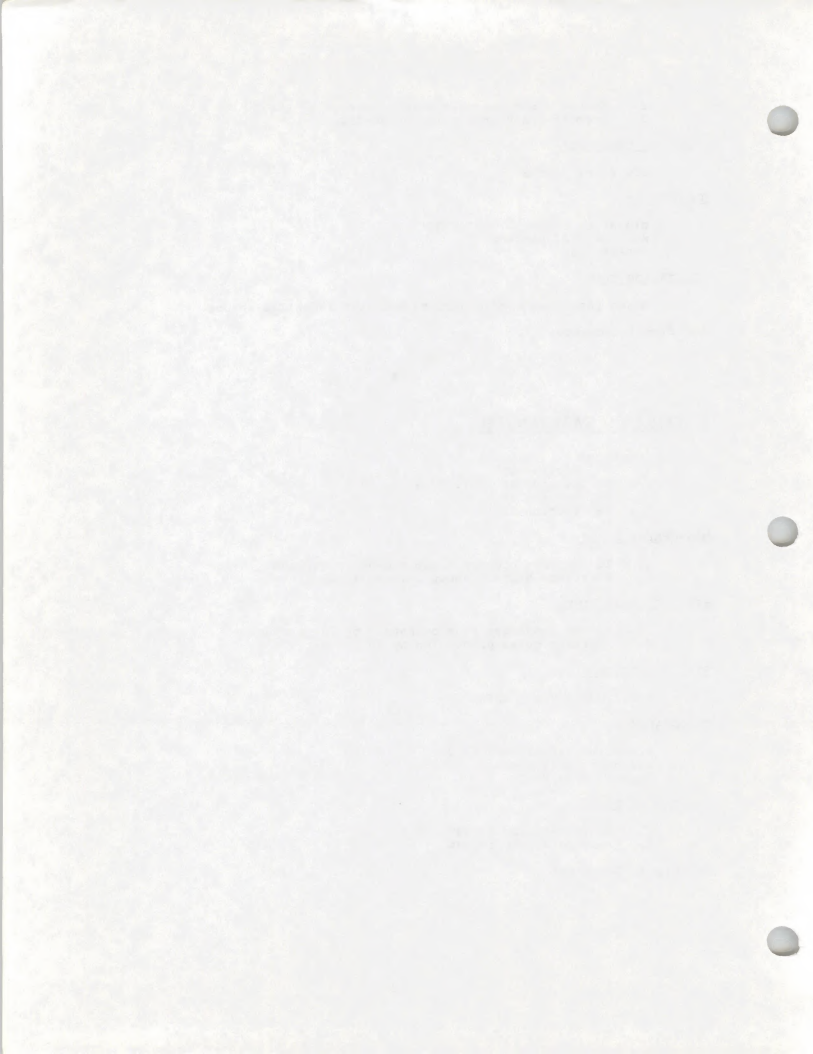
elevation range: 6600'-8000'  
x slope: 20-25 percent  
aspect: N/NW/E

#### VEGETATION TYPES

1. ponderosa pine forest
2. lodgepole pine forest

Additional Comments:





# Key

## map 7 Project Activity Sites

Laramie Peak HNP Boundary  
Great Divide/Platte River EA  
Line

Project Boundaries

Projects:

- |               |    |              |     |
|---------------|----|--------------|-----|
| Sugarloaf     | #1 | Laramie Peak | #9  |
| Rena mt.      | #2 | West Creek   | #10 |
| Split Rock    | #3 | Black mt.    | #11 |
| Green mt.     | #4 | Rock mt.     | #12 |
| Britannia     | #5 | Trethway     | #13 |
| Bear Head mt. | #6 | Sawtooth     | #14 |
| Star Creek    | #7 | Albany       | #15 |
| South mt.     | #8 |              |     |



#### .34A.5 Visitor Management in the HMP Area

The majority of visitors that will enter the HMP Area will be recreationists and hunters (see .37C). The recreation management decisions in the GDRA RMP and the PRRA RMP meet legal requirements for the health and safety of visitors and mitigate conflicts with other uses. Visitor management in the HMP Area for the BLM includes emergency services, information and interpretation services, and visitor and resource protection.

##### .34A.5.a Emergency Services

The GDRA and PRRA Fire personnel respond to all emergency fire, first-aid and other emergency services that may occur in the HMP Area. Map 8 illustrates the locations of specialized emergency services for the area. Local and State services are also utilized if necessary. The BLM office has a policy that all personnel working in the HMP Area must report to the designated office two (2) times per day to ensure that the people are safe and accounted for.

##### .34A.5.b Information and Interpretation Services

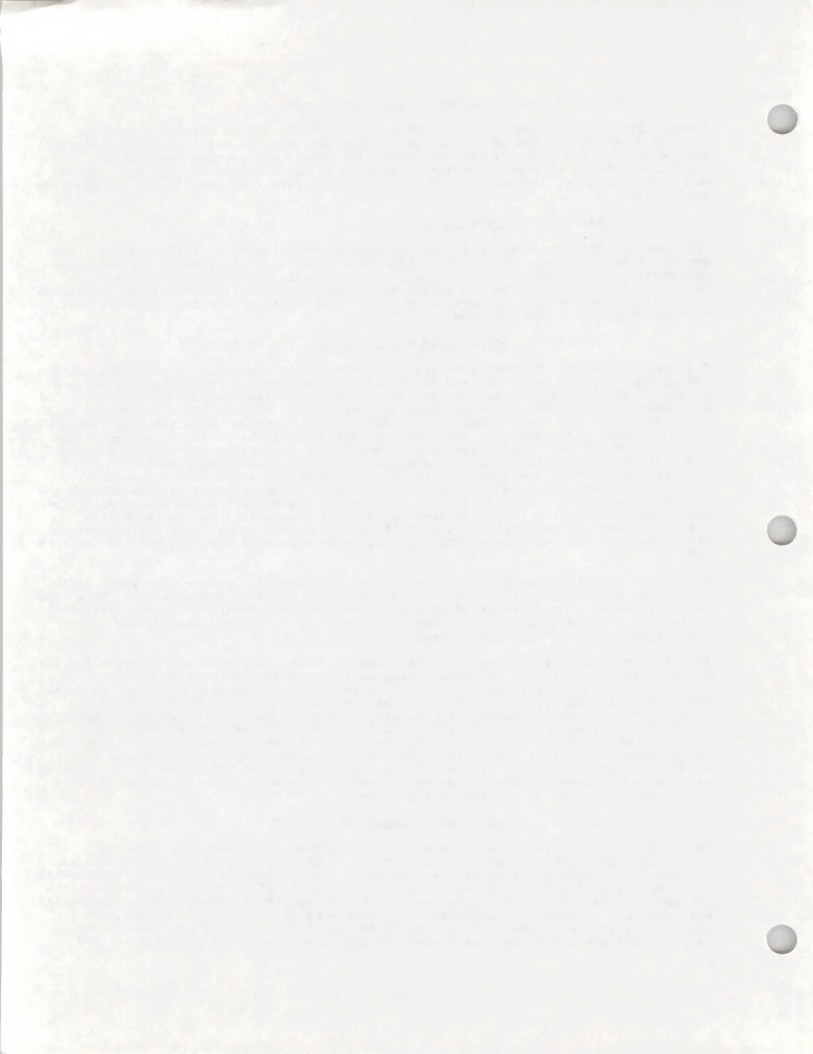
This segment of the HMP describes any management actions related to information and interpretation that have been and are to be taken to resolve identified issues (e.g. safety, recreation opportunities) and to maximize the effectiveness of other kinds of management actions (e.g. off-road vehicle designation, visitor protection). At this time, there are not any recreation site development plans for this HMP Area (see Map 9) in the GDRA. In addition, there are not any special recreation management areas as well (see Map 10). There are general management objectives in the GDRA RMP that are stated to ensure the continued availability of outdoor recreational opportunities. There are opportunities for potential recreation and information interpretive sites (e.g. Watchable Wildlife signs) to be proposed for the area in the future depending upon availability of funding and the overall direction of ecosystem management in relation to public uses of valuable resources. Any recreational activities that do occur within the HMP Area must adhere to all applicable local, State, and Federal laws, rules and regulations as stated in the GDRA RMP and the PRRA RMP.

Consistent with the Wyoming BLM access policy, the BLM will pursue opportunities to acquire or maintain legal access in portions of the HMP Area (see Map 11). This will be administered in a coordinated effort between the BLM, USFS, WGF, and interested applicable parties. Additional access needs will be considered as they are identified or as opportunities arise.

At this time there are not any off-road vehicle (ORV) plans that are prepared for the HMP Area in which visitor management applications can be applied (see Map 12). If a site-specific EA requires an ORV implementation plan, or possible permanent/seasonal road closures, then it will be coordinated with owners of adjacent properties, interested individuals, organizations, and other agencies. In the general planning area, with some exceptions, the area is open to use of motorized over-the-snow vehicles, provided that they do not adversely affect the wildlife or vegetation. All other motorized vehicle use in the GDRA and Laramie Peak HMP Area is limited to existing roads and trails. There are not any exceptions to this rule in the HMP Area at this time, however, they may be determined as necessary if warranted and will be acted upon after public disclosure and consent.

##### .34A.5.c Visitor and Resource Protection

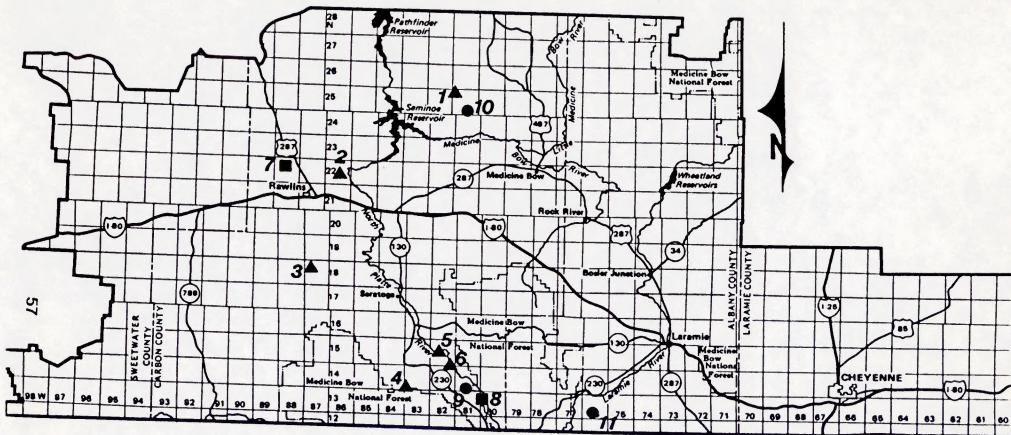
The GDRA RMP does identify management actions related to visitor and resource protection that have been and are to be taken to resolve identified issues such as hazards and protection of sensitive resources. The process of protection that occurs utilizes Standard Mitigation Guidelines (see Appendix VIII) that are integrated into the RMP process and will therefore be integrated into the site-specific environmental analysis (EA) process for each habitat project area (15 total) in the HMP. The application of the standard mitigation guidelines to all surface and other human presence disturbance activities concerning the BLM-administered public lands and





Map 8





▲ DEVELOPED RECREATION SITES

- 1 Pryor Flat
- 2 Dugway
- 3 Teton Reservoir
- 4 Encampment River
- 5 Bennett Peak
- 6 Corral Creek

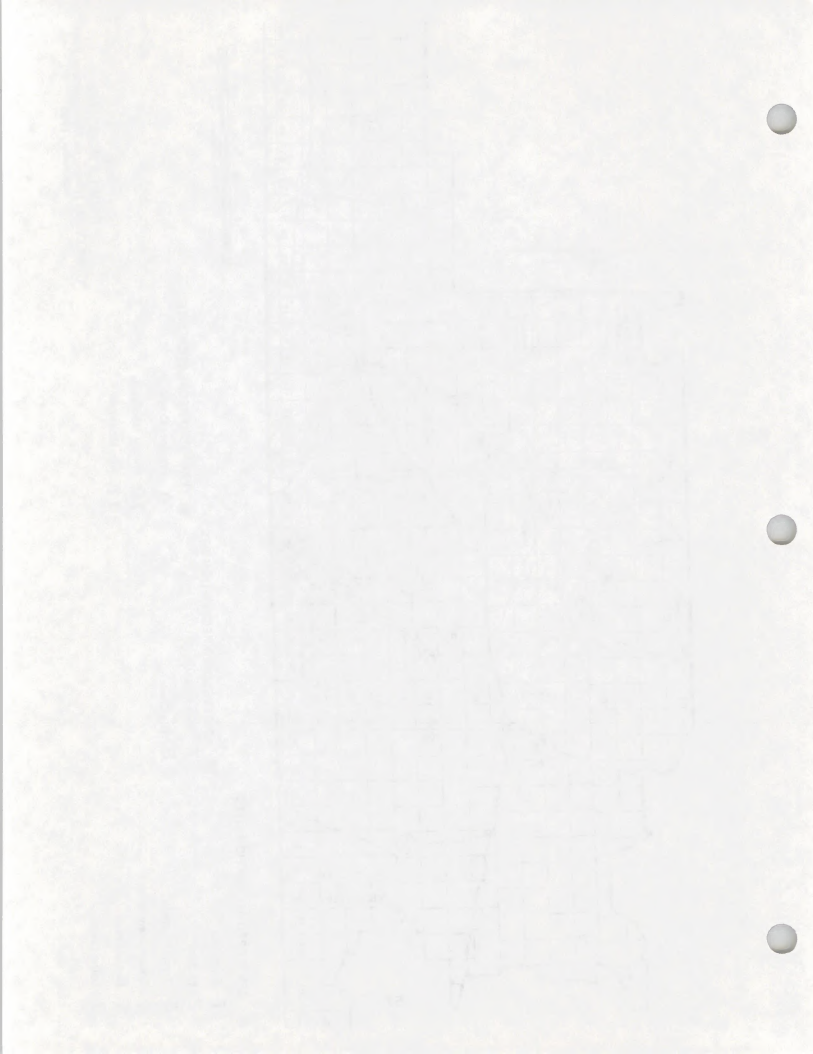
■ UNDEVELOPED RECREATION SITE

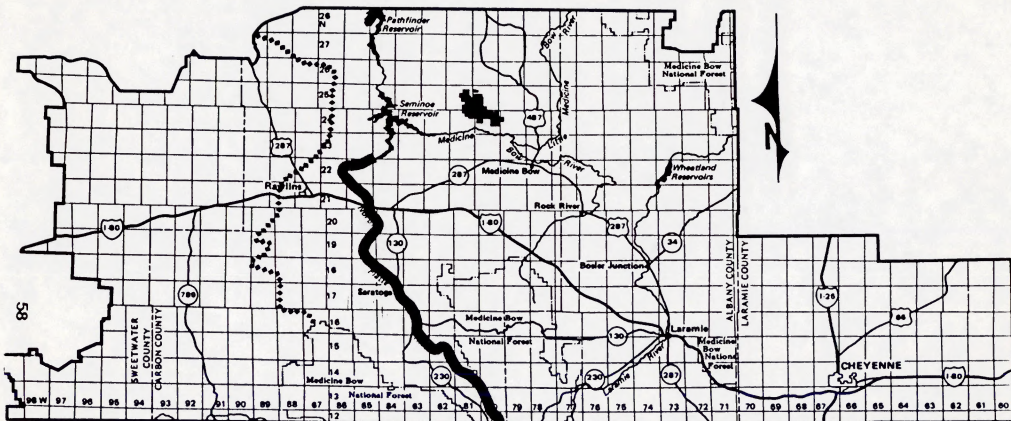
- 7 Nine Mile Hill
- 8 Big Creek

● PROPOSED RECREATION SITE

- 9 Prospect Creek
- 10 Shirley Mountains
- 11 Jelm Mountain

Map 9  
RECREATION SITES  
Great Divide Resource Management Plan  
November, 1990



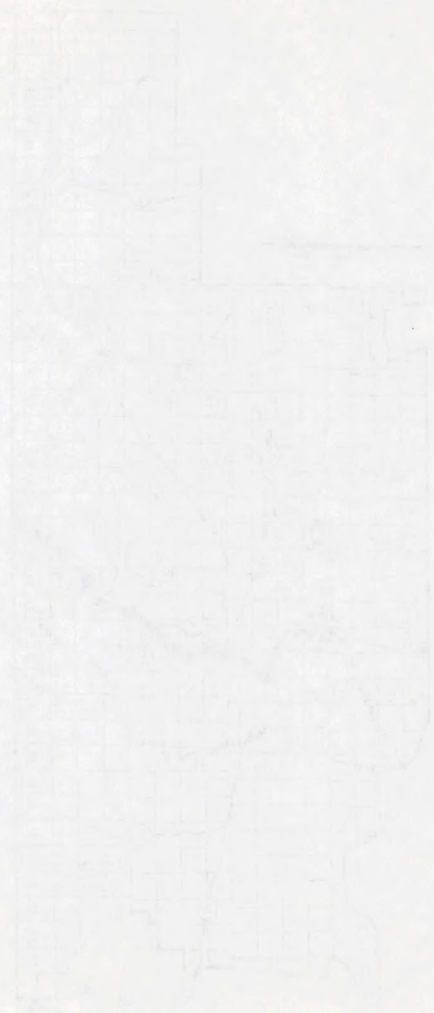


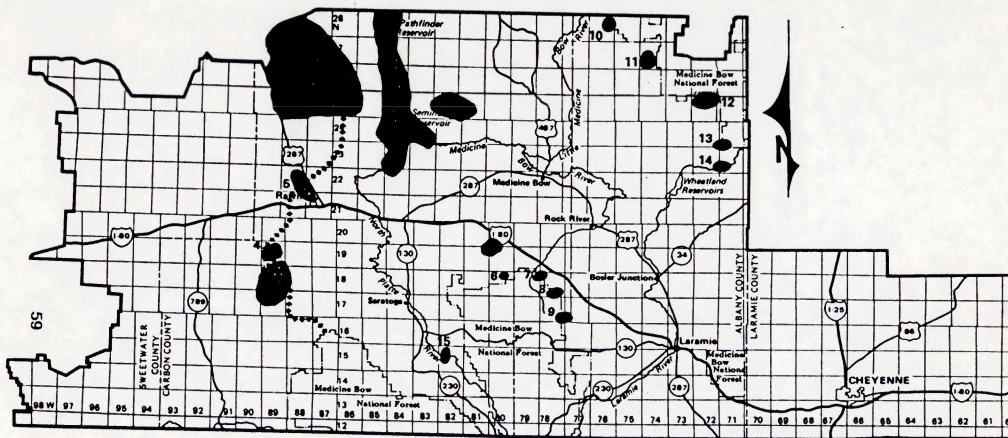
- Shirley Mountain Caves
- North Platte River
- Continental Divide National Scenic Trail

**Map 10**  
**SPECIAL RECREATION MANAGEMENT AREAS**  
**Great Divide Resource Management Plan**  
 November, 1990



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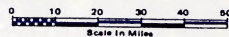


■ Area of Access Needs  
 ..... Continental Divide Trail

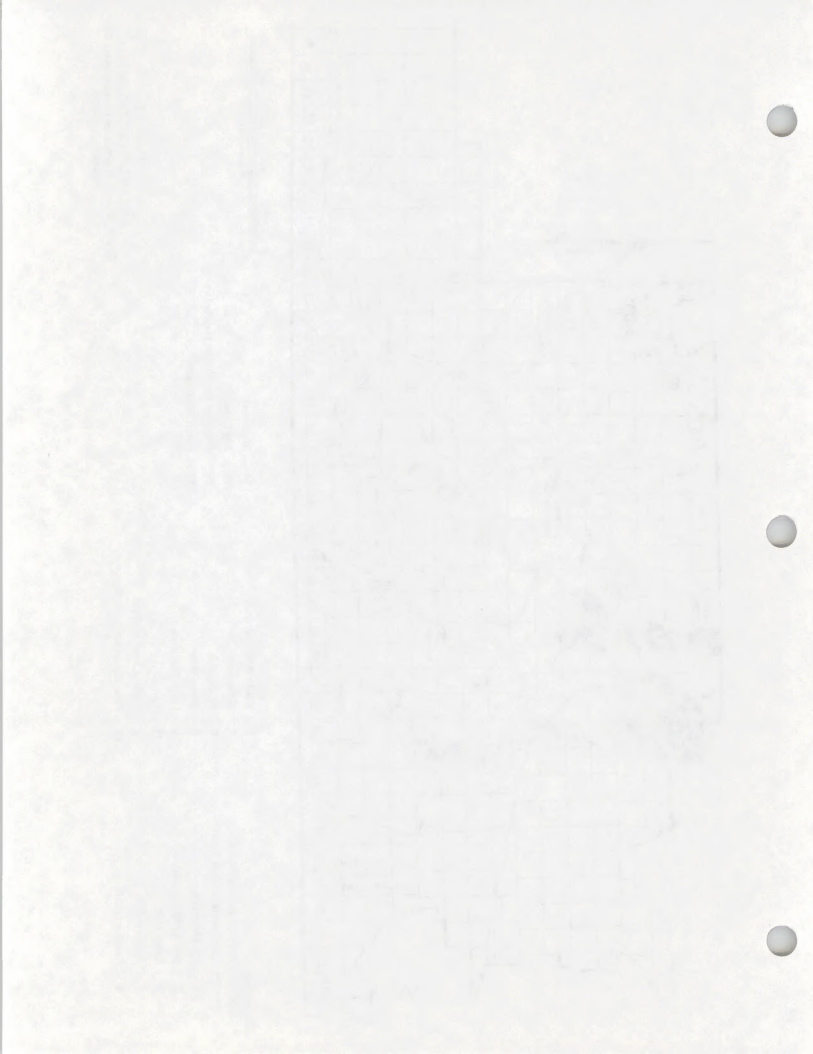
- 1 Elk Mountain
- 2 Shirley Mountains
- 3 Miller Hill
- 4 Atlantic Rim
- 5 Rawlins Uplift

- 6 White Rock Canyon
- 7 Arlington
- 8 Woodedge
- 9 Seven Mile
- 10 Little Medicine
- 11 Toltec
- 12 North Laramie River
- 13 Pine Mountain Split Rock

- 14 Sugarloaf
- 15 Big Creek
- 16 Seminole-Pathfinder Reservoirs
- 17 Ferris Mountains



**Map 11**  
**AREAS OF ACCESS NEED**  
 Great Divide Resource Management Plan  
 November, 1990









resources, past present, and future, will provide more uniformity in the mitigation process.

The purpose of the guidelines used to protect resources from human disturbance are (1) to reserve, for the BLM, the right to modify the operations of all surface and other human presence disturbance activities as part of the statutory requirements for environmental protection, and (2) to inform a potential lessee, permittee, or operator of the requirements that must be met when using BLM-administered public lands. These guidelines have been written in a format that will allow for (1) their direct use as stipulations, and (2) the addition of specific or specialized mitigation following the submission of a detailed plan of development or other project proposal (activity plans for the 15 sites), and an EA. The individual EAs that will be written within the HMP Area currently without a standardized set of permit or operation stipulations can use the mitigation guidelines as stipulations or as conditions of approval, or as a baseline for developing specific stipulations for a given activity or project.

#### .34A.6 Planned Actions HMP Progress Report

Table 2 depicts the HMP Progress Report for the Planned Actions segment of the HMP. This will be assessed and completed on a periodic basis. This table also appears in the Objectives (see .33) and Evaluation/Monitoring (see .35) portions of the HMP.

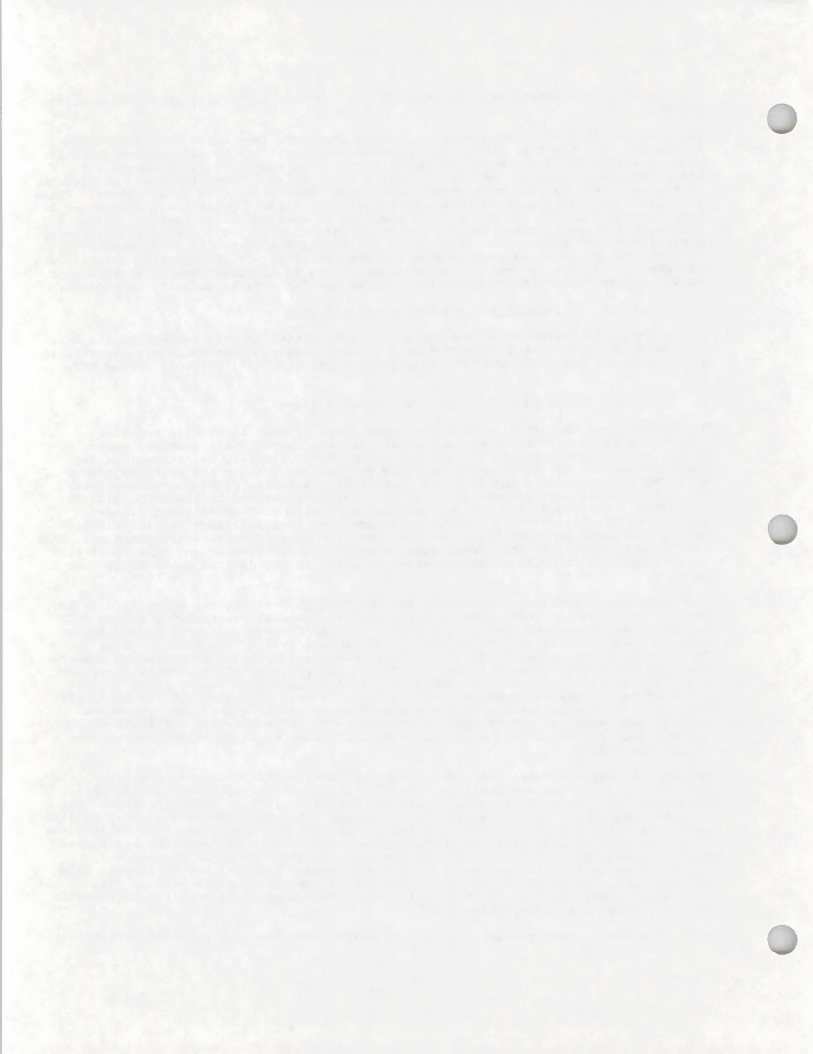
#### .34B Information Sources to Support Actions

This portion of the HMP discusses pertinent sport harvest techniques or other population management programs as they are defined by the State Wildlife Agency (WGFD) and are pertinent to the success of the HMP. The WGFD is responsible for managing and regulating resident wildlife populations. Since the major objective of this HMP is to increase the size and improve the viability of bighorn sheep, the population management program for this species, as practiced by the WGFD, will be discussed. Individual EAs for each project area will discuss relevant planned population rehabilitation programs, introductions, reestablishments, and wildlife release programs proposed by the WGFD at the time those documents are prepared. This has to be completed at that level since populations are dynamic and time spans will be in effect which could alter decisions contrary to any desired outcomes if done in advance.

The post-season population objective for the Laramie Peak Bighorn Sheep Herd is 500 sheep. A population model utilizing the most recent data was analyzed by the WGFD for this herd from June 1992 to May 1993. The POP-II model was used which assumes that no natural mortality occurs during the hunting season from Sept. 1 - Oct. 31. This model, although based on limited data, reveals a decline in population numbers from 216 (1988-1992 averages); 188 (1992); to 168 (proposed 1993), an 11% decrease. Post-season classifications reflected ratios of 12 rams/100 ewes/21 lambs in 1992 compared to 26 rams/100 ewes/46 lambs in 1991. It must be noted that the particular habitats for bighorn sheep within the HMP Area are remote and rugged, therefore, several sub-herds may not be totally accounted for since they are difficult to survey; data collection and sightings frequently seem to be by chance rather than a product of effort.

Relative to harvest/hunter statistics, in the Laramie Peak DAU Area (see Map 6) the bighorn sheep harvest has declined from 1983-1993, and has only been averaging 2.2 rams over the past five (5) years. Harvest peaked in 1983 at seven (7) rams. The 1993 hunting season prescribed four (4) licenses. Between 1988-1992 a total of 31.0 rams were taken during the hunting season. Although there appears to be an adequate supply of rams at this time, the mobility and distribution of rams, the restricted public access, and the ruggedness of Hunt Area 19 are some major factors contributing to the fluctuations in the ram harvest. The 1992 hunter success rate was only 25% (the lowest since 1986) compared to the 1991 success rate of 75%. A 50% success rate was expected for the 1993 hunt. Hunters spent 41 days/ram obtained in 1992 compared to 24.3 days/ram in 1991.

WGFD personnel, hired through the Wyoming Cooperative Fish and Wildlife Research Unit



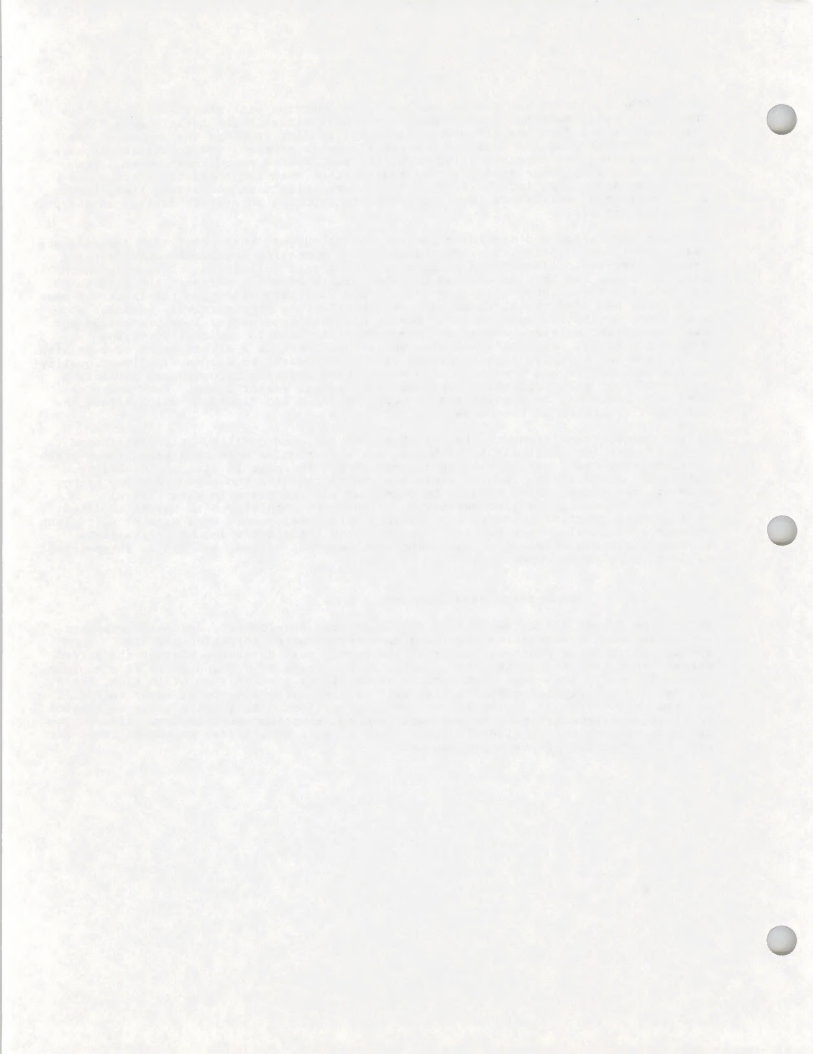
(Aug. 1989-June 1992) and BLM volunteers in cooperation with the WGFD, through the GDR (July 1994) have been documenting sheep herd sizes in the Laramie Peak Range. The sample sizes from the BLM observations are smaller in scope than those of the WGFD. Although research supports a minimal harvest of rams, the population appears to be declining due to non-hunting mortality and lowered recruitment rates. The distribution of bighorn sheep, access restrictions, habitat characteristics (i.e. rugged terrain), and lack of funding limit data collection concerning these herds. Local residents, outfitters, and sheep hunters reported an overall decline in sheep numbers since 1983.

Low lamb/ewe ratios and declining ram/ewe ratios suggest that relatively few rams are being recruited. In addition, significant lamb mortality appears to occur after prehunt data are collected and prior to posthunt data collection. Currently, high lamb mortality has been documented for the Laramie Peak sub-herds in the late summer and fall for 1986, 1989, 1990, and 1992. Poor nutrition affecting the lactating ewes with lambs has been hypothesized as a factor affecting lamb survival. Studies show that sheep living in higher quality forage habitats have higher lamb production and survival characteristics versus those sub-herds located in low quality forage production areas. Documentation also shows that there is a displacement of ewes with lambs from the riparian zone on creeks (e.g. Duck Creek) to slopes with lower quality forage when cattle are present. Lamb mortalities that are reported are probably a result of poor milk production from ewes and overall weaker lambs. Weak lambs or ewes with lambs may be predisposed to more predation and diseases, which effect the universal viability of the herds.

In its present condition, the Laramie Peak DAU has good quality, well-distributed sheep habitat for small, isolated herds, but will require more open-grass/shrub-grass habitats near rocky outcrops to remain stable and increase in size and viability. Currently, breeding and lambing areas are restricted with too much overstory being present, therefore, these need to be opened up and increased in size. Travel corridors for sheep are also restricted which force populations to become isolated. This affects genetic diversity and multiple herd development. The lack of sufficient amounts of suitable, open habitat stresses sheep, limits the amount of available forage, restricts movement between important seasonal ranges, and denies intermixing of local population concentrations.

#### .34C Water Right Considerations

Before the Bureau allocates funds for maintenance, development, or construction of any water-related facilities involving nonreserved water for which a State appropriative water right is required, the Bureau must determine whether the United States can obtain the State water right. In the State of Wyoming there is a minimum threshold of "X" acre feet that require water rights. At this point in time, there are not any anticipated projects that will require large amounts of water that will surpass this threshold. The largest probable project will involve water catchments (collecting rainwater) that do not require specific State water rights. If any projects surpass the permissible limit, then it will be assessed at the EA level for each site-specific proposed project area,





### .35 Evaluation and Monitoring

A description of studies and analyses used to evaluate and monitor progress of planned actions to accomplish the objectives in .33 must be stated to thoroughly understand, evaluate and monitor the success rate of all of the completed programs in the HMP. Form 6780-2 (Table 2) summarizes relative objectives and planned actions within site-specific project proposals (15 total) and programs. Since the HMP is a general document to describe the entire habitat management area, and individual EAs will be written for each site-specific project proposal area, then the estimates of personnel, workmonths, season, and costs needed on an annual basis to achieve evaluation and monitoring of projects will be completed at the EA level. Some EAs may not be prepared for several years, therefore, with changing intervals and economics an analyses involving these topics will become obsolete and inefficient if prepared in 1993.

There will be several different types of inventories that will be completed for each site-specific EA. Inventories for bighorn sheep habitat requirements include forage quantity and quality (winter, spring, summer range) and proximity to escape terrain, water sources near escape terrain, salt/mineral licks, visibility quantity and quality (vegetation types/tree-shrub crown cover), escape terrain (areas within ~825 feet near steep, rocky terrain, with >80% slope), thermal habitats, and use of migration corridors. The inventories that will be used to assess bighorn sheep and range conditions and conflicts include abundance of steep escape terrain, abundance of vegetation types that are in low growing open areas known to provide sheep forage (near escape terrain), abundance of southerly aspects, annual precipitation and presence of reliable water sources, and absence of livestock and other human activities and development that would threaten sheep and sheep habitat. Inventories for bighorn sheep populations include relative density-trend counts for population sizes and sex-age structures, census-classifications summing the maximum unduplicated count for each class, and structure/sex-age categories that include lambs, yearling males, yearling females, ewes, and four classes of rams based on 3/4 curl horn increments. These are all coded in Table 2 according to Inventory Habitat (IH), Inventory Range (IR), and Inventory Population (IP). Throughout the life of this plan, when specific planned actions are determined, the codes will be added to the evaluation/monitoring column in Table 2 for each site-specific planned area (EA).

Monitoring components of the HMP include assessing the changes in the quantity and quality of the various inventories, and assessing the changes in use. These are also coded in Table 2 as Monitoring Habitat (MH), Monitoring Range (MR), and Monitoring Population (MP). Again, these activities will be incorporated into the document when planning occurs for a site-specific area (EA).

#### .35.A- Special Studies - Laramie Peak Bighorn Sheep Study

The Laramie Peak Bighorn Sheep Study was initiated on July 1, 1989. The Wyoming Game and Fish Department (WGFD) funded the study. Dan Hengel was hired through the Wyoming Cooperative Fish and Wildlife Research Unit as the primary researcher on the project. Intensive field work began in late August of 1989. Field work on the study ended in June 1992 and a final report was expected in 1993, but to date has not yet been completed. The WGFD is expected to have a report in the near future.

Seasonal movements, distribution and habitat use were determined by following telemetered sheep on a yearlong basis using ground and aerial surveys. The sheep were ear tagged as well, blood samples and body measurements were taken to determine population composition, productivity and population dynamics. A total of fifteen (15) ewes were captured during the study. Lamb mortality factors were investigated. Fecal samples were taken to determine the rate of lungworm infestation. Nutritional quality of the sheep diets and forage habits were determined from fecal pellet analyses and feeding site examinations. Competition for space and forage between bighorn sheep and other ungulates was also documented.



1. The purpose of this document is to provide a summary of the information received from the source regarding the activities of the group in the area of [redacted] and the role of the individual in the group.

2. The source has provided information regarding the activities of the group in the area of [redacted] and the role of the individual in the group. The source has provided information regarding the activities of the group in the area of [redacted] and the role of the individual in the group.

3. The source has provided information regarding the activities of the group in the area of [redacted] and the role of the individual in the group. The source has provided information regarding the activities of the group in the area of [redacted] and the role of the individual in the group.

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5. The source has provided information regarding the activities of the group in the area of [redacted] and the role of the individual in the group. The source has provided information regarding the activities of the group in the area of [redacted] and the role of the individual in the group.

6. The source has provided information regarding the activities of the group in the area of [redacted] and the role of the individual in the group. The source has provided information regarding the activities of the group in the area of [redacted] and the role of the individual in the group.

Results of portions of the study were reported in 1992 at the Biennial Symposium of the Northern Wild Sheep and Goat Council and are as follows:

Population Dynamics, Seasonal Distribution and Movement Patterns of the Laramie Peak Bighorn Sheep Herd (Hengel et al., 1992)

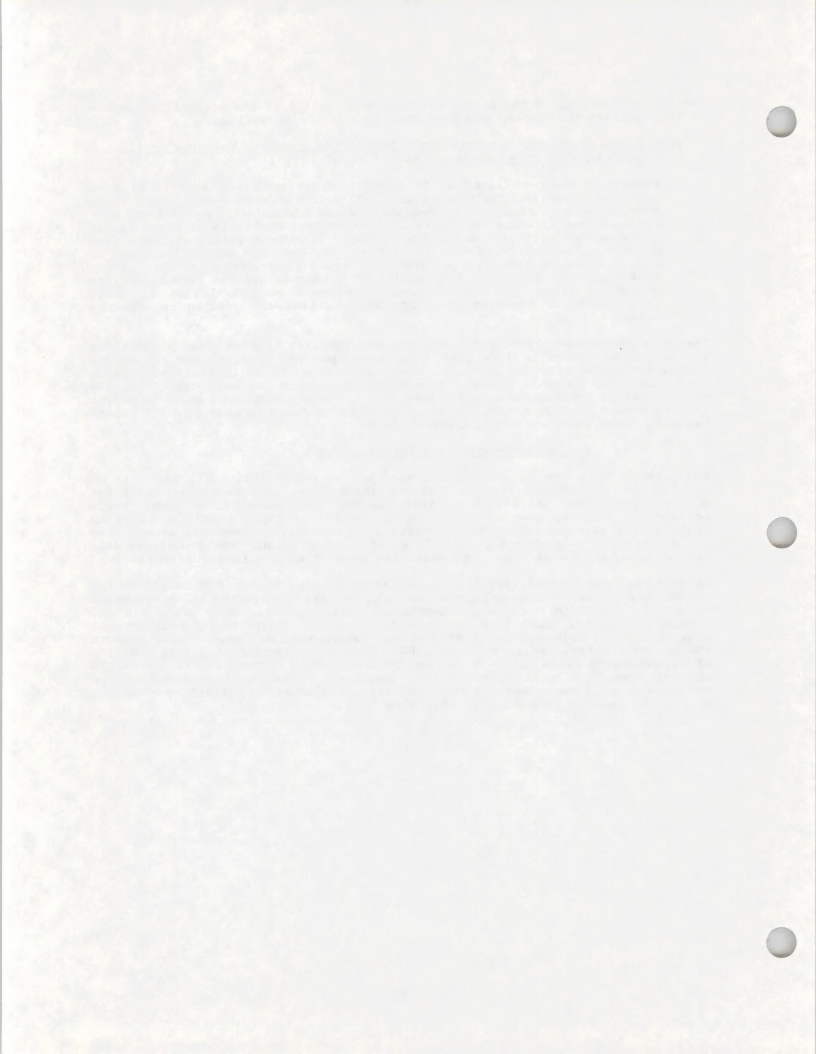
Abstract: Radio-collared adult bighorn sheep ewes and associates were relocated from fall 1989 to spring 1992. The Laramie Peak bighorn sheep herd appears to be stable to declining based on herd unit numbers and sex-ratios. Annual adult ewe mortality was 10.8%. Mortality of three radio-instrumented ewes was caused from a fall, from *Pasteurella sp.*, and from coyotes. Lambing rates were as high as 75%, but lamb survival was 33% or less. Lungworm infection levels were higher than levels found in other sheep herds in Wyoming. Ewes exhibited movements greater than 51 km from wintering areas to lambing areas. Bighorn ewes exhibited a social intolerance of domestic livestock when cattle were grazing in riparian areas.

The BLM also had two (2) seasonal SCA students tracking bighorn sheep populations in the Laramie range in July 1994. The time span for this project was only 3 weeks, therefore data was limited. Sheep were found to be in isolated pockets throughout the range. There was a definite display of competition in the riparian areas between sheep and livestock. Livestock displaced sheep to poorer quality forage habitat areas. There were few lambs found at this time. A report has been filed with the WGFD in August 1994.

.35.B. Evaluation/Monitoring Annual Costs

The Laramie Peak HMP is an umbrella document in which individual EAs will be written and implemented for the fifteen (15) habitat improvement projects for bighorn sheep (see .34A.2). Since this document encompasses an extremely large acreage of land and some of the projects may not be implemented for years to come, a true representation of estimates of personnel, workmonths, season, and costs would not be accurate at this level of documentation. These analyses will be completed at the EA level for each area project on a site-specific basis.

The RMP requires that certain evaluation and monitoring analyses be completed for the Resource Area. These activities include, but are not limited to, inventories on raptors, prairie dog towns, sage/sharp-tailed grouse, mule deer, elk and riparian habitats. The major inventory that must be completed for each project area focuses on bighorn sheep. Monitoring studies include those on elk, bighorn sheep, and riparian habitats. Form 6780-2 (Table 2) describes a general outline of the estimated dates, activities, and costs of the 15 project activities within the HMP Area. It must be noted that these are merely estimates and can be modified at any time to reflect the most current information pertaining to local, state, and federal economics at that time.



### .36 Habitat Management Plan Progress Report

After the Laramie Peak HMP Objectives (.33), Planned Actions (.34 A-C), and Evaluation and Monitoring (.35) efforts have been prepared and included on Form 6780-2 (see Table 2), then the Progress report immediately follows. This is also Form 6780-2, but the progress and completion dates of the individual project activities are documented on this form. Since this section basically outlines progress throughout the HMP, Then Table 2 will also be placed here for a quick reference to this issue. This provides Resource Area specialists and management personnel the opportunity to view and compare these three (3) principle HMP sections together and verify their coordination. It also permits all parties to "track" HMP progress throughout it's implementation.

Many factors must be considered when planning, implementing, and evaluating numerous project activities (15 total) for an area as large as the Laramie Peak HMP Area. Since many of these projects may not take effect for several years, and ecosystems are so dynamic, the processes for evaluation and monitoring may change. As societies' attitudes change regarding wildlife and their habitats, as well as the impacts humans have on wildlife and associated habitats, there may even be changes in the individual project plans and overall objectives. Events such as this must always be considered when dealing with a 10-15 year HMP. As stated before, the major goal of the HMP is to improve bighorn sheep habitats and maintain viable populations throughout the Medicine Bow National Forest and adjacent BLM lands.

Other project activities such as in-stream structures, aquatic wetland improvements (plantings), riparian improvement fencing, waterfowl nesting structures, prescribed burns and upland fencing modifications may take place throughout the HMP Area to improve habitat for not only bighorn sheep, but a diversity of wildlife as well. Inventories/monitoring of other wildlife species may also occur in addition to the major inventory and monitoring for bighorn sheep. As stated above, Table 2 will also be placed in this section for an overall progress report of the HMP.

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BUREAU OF LAND MANAGEMENT

TABLE 2 HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
<b>Laramie Peak HMP</b>  1. Improve the distribution of bighorn sheep populations and associated genetic diversity by increasing the herd numbers from 173 sheep (1993) to 500 sheep (2010).  2. Identify, protect, and enhance bighorn sheep habitat; improve/increase quantity and quality of vegetation/forage areas by approximately 9,000+ acres.  3. Pursuit of land exchanges/legal public access, improve hunter success rates/distribution, improve recreational uses.		<b>Laramie Peak HMP - General</b>  Prescribed burns; Small commercial logging; Firewood sales for habitat improvement and diversity.  Fence modifications for wildlife movements.  Aquatic/wetland improvement using fence modifications, update AMPs, in-stream structures.  Riparian improvement: fencing/in-stream structures/vegetation plantings.  Reservoir development: waterfowl nesting structures.		<b>INVENTORIES:</b>  <b>Bighorn sheep habitat requirements:</b>  (1IH) Forage quantity/quality (winter, spring, summer range)- proximity to escape terrain; (2IH) Water sources near escape terrain; (3IH) Salt/mineral licks; (4IH) Visibility quantity/quality-vegetation types/tree, shrub crown cover; (5IH) Escape terrain (areas within ~ 825 ft. steep, rocky terrain- >80% slope); (6IH) Thermal habitats; (7IH) Use of migration corridors (routes, visibility).	

## INSTRUCTIONS

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List schedule evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.

Date	Time	Location	Remarks
1942	10:00	1000	1000
1942	10:00	1000	1000
1942	10:00	1000	1000
1942	10:00	1000	1000
1942	10:00	1000	1000
1942	10:00	1000	1000

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

TABLE 2 HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
4. Facilitate habitat manipulation projects through vegetation treatments, prescribed burns, firewood sales, small commercial logging operations.				<p><b>Bighorn sheep range assessments:</b></p> <p>(1IR) Abundance of steep escape terrain;</p> <p>(2IR) Abundance of vegetation types that are low growing/open and known to provide sheep forage-near escape terrain;</p> <p>(3IR) Abundance of southerly aspects;</p> <p>(4IR) Annual precipitation and presence of reliable water sources;</p> <p>(5IR) Absence of livestock and other human activities/development that would threaten sheep and sheep habitat.</p> <p><b>Bighorn sheep population measurements:</b></p> <p>(1IP) Relative density-trend counts for population sizes, sex-age structure;</p>	

## INSTRUCTIONS

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List schedule evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.

Date	Time	Location	Weather	Wind	Temp	Remarks
1941	10:00	St. Louis	Clear	S 10	60	Left St. Louis
1941	11:00	St. Louis	Clear	S 10	60	Left St. Louis
1941	12:00	St. Louis	Clear	S 10	60	Left St. Louis
1941	13:00	St. Louis	Clear	S 10	60	Left St. Louis
1941	14:00	St. Louis	Clear	S 10	60	Left St. Louis
1941	15:00	St. Louis	Clear	S 10	60	Left St. Louis
1941	16:00	St. Louis	Clear	S 10	60	Left St. Louis
1941	17:00	St. Louis	Clear	S 10	60	Left St. Louis
1941	18:00	St. Louis	Clear	S 10	60	Left St. Louis

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TABLE 2 HABITAT MANAGEMENT PLAN PROGRESS REPORT

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
				<p>Bighorn sheep population measurements continued:</p> <p>(2IP) Census-classifications summing the maximum unduplicated count for each class;</p> <p>(3IP) Structure-sex-age categories: lambs, yearling males, yearling females, ewes, four classes of rams based on 3/4 curl horn increments.</p> <p><b>MONITORING:</b></p> <p>Bighorn sheep habitat requirements: Changes in quantity/quality (1MH) (4MH); Changes in use (2MH) (3MH) (5MH) (6MH) (7MH)</p> <p>Bighorn sheep range assessments: Changes in quantity/quality (2MR) (4MR) Changes in use (1MR) (2MR) (3MR)</p> <p>Bighorn sheep population measurements: Changes in quantity/quality (1MP) (2MP) (3MP)</p>	

## INSTRUCTIONS

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
2. List specific planned actions to be initiated to meet each specific objective.
3. List schedule evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.





UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**HABITAT MANAGEMENT PLAN PROGRESS REPORT**

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
1. Remove forest canopy by 90%. 2. Increase grass production by 75%.  1. Reduce conifer overstory by 90-100%. 2. Reduce shrub coverage by 60-70%. 3. Increase grass production by 75-80% within 3-5 years.  1. Reduce forest canopy by 90-100% to improve visibility and security for wintering sheep. 2. Reduce shrub cover by 60-70%. 3. Increase grass production by 60-70% within 3-5 years.  1. Reduce forest canopy cover by 70-80% to increase visibility range and provide escape habitat for sheep. 2. Increase mixed shrub cover by 60-70%. 3. Increase grass forage species production by 60% in 2-3 years.		Project: SUGARLOAF   Project: REESE MOUNTAIN   Project: SPLIT ROCK   Project: GREEN MOUNTAIN			

INSTRUCTIONS

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UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**HABITAT MANAGEMENT PLAN PROGRESS REPORT**

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
1. Eliminate conifer overstory by 75%. 2. Increase grass production by 75%.		Project: BRITANIA			
1. Decrease forest canopy cover by 80%. 2. Decrease mixed shrub cover by 60-70%. 3. Increase grass forage production by 60% within 2-3 years.		Project: BEAR HEAD MOUNTAIN			
1. Remove conifer overstory by 70%. 2. Increase grass production by 60%.		Project: BEAR CREEK			
1. Remove conifer overstory by 75%. 2. Promote grass production by 60-70%.		Project: SOUTH MOUNTAIN			
1. Remove conifer overstory by 75%. 2. Promote grass production by 60-70%.		Project: LARAMIE PEAK			

INSTRUCTIONS

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2. List specific planned actions to be initiated to meet each specific objective.
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4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.

Date	Time	Location	Weather	Remarks
1950-10-10	08:00	Lake Michigan	Clear	First sighting of a loon
1950-10-11	09:15	Lake Michigan	Partly cloudy	Two loons seen near shore
1950-10-12	10:30	Lake Michigan	Overcast	No loons observed
1950-10-13	11:45	Lake Michigan	Clear	One loon seen in distance
1950-10-14	12:00	Lake Michigan	Clear	No loons observed
1950-10-15	13:15	Lake Michigan	Partly cloudy	Two loons seen near shore
1950-10-16	14:30	Lake Michigan	Clear	One loon seen in distance
1950-10-17	15:45	Lake Michigan	Clear	No loons observed

W. H. C. 10-10-50 10-17-50 10-14-50 10-11-50 10-8-50

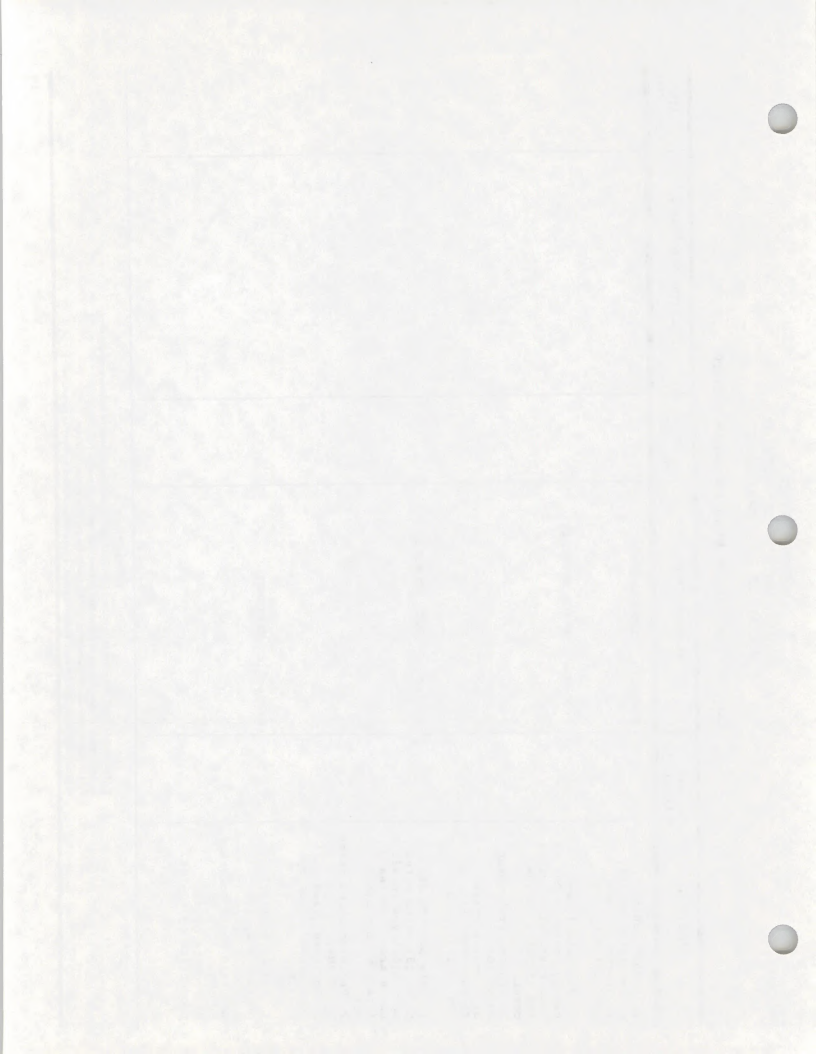
W. H. C. 10-10-50 10-17-50 10-14-50 10-11-50 10-8-50

W. H. C. 10-10-50 10-17-50 10-14-50 10-11-50 10-8-50



OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
1. Remove conifer overstory by 60-75%. 2. Increase grass production by 50%.		Project: LOST CREEK			
1. Decrease forest canopy cover by 80% to reduce visual barriers and increase escape cover. 2. Reduce shrub cover by 60-70%. 3. Increase grass forage production by 60% in 2-3 years.		Project: BLACK MOUNTAIN			
1. This project has three (3) burns sites: the objectives in all 3 burns are to decrease forest canopy by 70-80%. 2. Decrease shrub cover by 60-70%. 3. Increase grass forage production by 60-70%.		Project: ROCK MOUNTAIN			
1. Remove conifer overstory by 70%. 2. Reduce mixed mountain shrub coverage by 50%. 3. Promote grass production by 60-70%.		Project: TRETHEWAY			

1. List specific HMP objectives as developed from RMP/MFP planning documents or as otherwise approved.
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UNITED STATES  
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**HABITAT MANAGEMENT PLAN PROGRESS REPORT**

OBJECTIVES	DATE COMPLETED	PLANNED ACTIONS	DATE COMPLETED	EVALUATION/MONITORING	DATE COMPLETED
1. Remove ponderosa pine overstory by 75%. 2. Increase grass production by 70%.		Project: <b>SAWTOOTH</b>			
1. Remove conifer overstory by 75-85%. 2. Increase grass production by 75%.		Project: <b>ALBANY</b>			

INSTRUCTIONS

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3. List schedule evaluation/monitoring study(s) planned to evaluate accomplishments.
4. Enter completion date for each objective, action, or evaluation/monitoring study as accomplished.



### .37 Coordination with Other BLM Programs, Agencies, and Organizations

Coordination of HMP development with other BLM resource programs is necessary to ensure multiple-use management consistent with the GDRA RMP and PRRA RMP decisions. This requires scheduling and arrangement for timely input of other concerned disciplines and interests. This will be done in finer detail at the EA level for each project proposed. If and when other resource activity plans are implemented in the HMP Area, correlation and cross-referencing to this HMP and associated EAs will occur to ensure that priority species and their habitat management objectives are properly included.

Individual EAs for each project proposed will differ depending upon location, agencies and environmental groups involved, timing, etc., therefore it is essential that at that time all the interested parties are contacted and the plans are openly discussed. The following sections provide the basic concept for how these interrelationships might be developed and presented.

#### .37A Silviculture Procedures

The two most predominate forest vegetation types in the area are the ponderosa pine and the Douglas-fir. Each type is named after the anticipated climax plant species for the site. Ponderosa pine usually occurs in the lower elevation, drier sites. Another forest type, woodland, designates forests with very low stocking (usually less than 25 percent canopy cover) and is comprised of coniferous trees such as ponderosa pine, limber pine, and juniper.

Recent on-site analysis and past inventory information indicate that there has been a trend of steadily increasing trees density. This trend of higher tree density has been commonly noted in ponderosa pine and Douglas-fir forests throughout the Rocky Mountain region. The trend has been largely attributed to either the direct or indirect exclusion of low intensity surface fires. These surface fires served the functions of controlling tree density, recycling nutrients, retaining low levels of dead wood biomass in the area.

Prior to the influence of European settlement, low-intensity fires occurred in ponderosa pine forests between every 10 to 60+ years. The high tree density prior to the MPB epidemic and the accumulations of needle debris indicate that fires have not occurred in this area for many years.

The exclusion of fire was probably a major contributing factor to a MPB epidemic that occurred in the mid 1980s. The lack of fires result in higher tree densities, which cause greater competition between the trees for water and nutrient requirements. When a natural disturbance event like the MPB epidemic occurred, the stress on the trees from excessive competition caused very high tree mortality. In some locations within the HMP area that mortality has almost reached 100 percent of the large diameter trees.

Present forest conditions are undesirable for a number of reasons. Where MPB mortality has been severe:

(1) The rapid, nearly 100 percent, mortality of the large-sized ponderosa pine has limited opportunities for successful natural reproduction, because of the cyclic cone crops inherent to ponderosa pine. Regeneration is also limited to some extent by the heavy accumulations of dead and down trees. The majority of the trees that survived the MPB epidemic are small-diametered, but not necessarily young. Their small diameter is a reflection of past suppression by the larger, dominant trees. This suppression has resulted in mis-formed tree crowns with low crown to tree height ratios. Productivity, in terms of forest growth, is poor because of the mortality, blowdown, poor quality of the remaining trees, and low regeneration success. Consequently, from a forest growth standpoint, the productivity of the area is far below potential.



1. The first part of the report is a general introduction to the subject.

2. The second part of the report is a detailed description of the methods used in the study.

3. The third part of the report is a discussion of the results of the study.

4. The fourth part of the report is a conclusion.

5. The fifth part of the report is a list of references.

6. The sixth part of the report is a list of figures.

7. The seventh part of the report is a list of tables.

8. The eighth part of the report is a list of appendices.

9. The ninth part of the report is a list of footnotes.

10. The tenth part of the report is a list of errata.

(2) The dead biomass creates a high fuel loading for the area. Current fuel loading in many locations is estimated to be in excess of 40 tons per acre. This high fuel loading could result in unnaturally, very intense future wildfires that would kill the remaining live trees, which could otherwise survive normal, natural fires. These intense wildfires could also result in long-term losses in site productivity through damage to the soil resource, because of abnormally high fire temperatures. Intensive wildfires could easily spread to the neighboring, higher elevation Douglas-fir forest.

(3) Additionally, the standing and down dead biomass restricts viewing distances for bighorn sheep, which restricts opportunities for the species to utilize the area.

Where there has not been the MPB activity, forest conditions are still not desirable because of the dense stocking of trees. In addition to restricting big horn sheep utilization of areas, another concern is the high fuel loading of the living biomass. Past fire suppression has allowed these areas to achieve higher stocking levels than what would occur naturally. Consequentially, when fires do occur, they would be of a higher intensity and cause long term losses in site productivity.

Therefore, management actions are needed to allow these forest ecosystems to recover and restore itself to a more natural, healthier condition. The objectives of forest management for this area are to:

- a. salvage a resource (wood material) while it still retains economic value.
- b. restore the natural functioning of these forest ecosystems.
- c. provide a healthy, forested landscape for human and wildlife benefits.

Projects would most likely take the form of salvage harvesting operations in beetle-killed forest. In addition to achieving a short term objective of recovering a natural resource for human use, other long term objectives of the projects are to reduce fuel loadings in the area, improve vegetative landscape conditions to facilitate future prescribed burning for forest and wildlife objectives, and remove standing biomass to improve site distances for bighorn sheep on site-specific locations to increase sheep use in the area.

The proposed activities would be implemented by the issuance of a timber sale contract with applicable stipulations. Work would start only after authorization is granted. The work would involve severing the trees with chainsaws or mechanized harvesters at a maximum of 1 foot above the ground.

Actual harvesting intensity would vary throughout the area, depending on the extent of mortality. Harvested trees would be individually selected. The objective is to remove between 40 and 60 percent of the standing and down, dead trees.

Merchantable material would be machine skidded to landings along the existing two-tracks and temporary spur roads. The material would then be hauled to processing facilities.

Slash disposal method(s) would be determined after further on-site examination and would depend on the amount of slash. Two methods that would be considered are limbing/lopping and piling. Regardless of the method chosen, slash heights over 18 inches would not be permitted. To enhance long term productivity of the area, about 10 to 15 tons/acre of large woody debris would be left on site.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the integrity of the financial system and for the ability to detect and prevent fraud.

2. The second part of the document outlines the specific procedures for recording transactions. It details the steps involved in the accounting cycle, from identifying the transaction to posting it to the appropriate ledger account.

3. The third part of the document discusses the importance of internal controls. It explains how internal controls can be designed to minimize the risk of errors and fraud, and how they can be used to ensure the accuracy and reliability of financial information.

4. The fourth part of the document discusses the importance of external audits. It explains how external audits can provide an independent assessment of the accuracy and reliability of financial information, and how they can be used to identify areas for improvement.

5. The fifth part of the document discusses the importance of transparency. It explains how transparency can be achieved through the timely and accurate disclosure of financial information, and how it can be used to build trust and confidence in the financial system.

6. The sixth part of the document discusses the importance of ethical behavior. It explains how ethical behavior is essential for the integrity of the financial system, and how it can be promoted through the establishment of a strong ethical culture.

7. The seventh part of the document discusses the importance of continuous improvement. It explains how continuous improvement can be achieved through the regular review and evaluation of financial processes, and how it can be used to identify areas for improvement.

8. The eighth part of the document discusses the importance of communication. It explains how communication is essential for the effective implementation of financial policies and procedures, and how it can be used to ensure that all stakeholders are aware of their responsibilities.

9. The ninth part of the document discusses the importance of training. It explains how training is essential for the development of a skilled and knowledgeable workforce, and how it can be used to ensure that all employees are capable of performing their duties effectively.

10. The tenth part of the document discusses the importance of monitoring and evaluation. It explains how monitoring and evaluation are essential for the assessment of the effectiveness of financial policies and procedures, and how they can be used to identify areas for improvement.

11. The eleventh part of the document discusses the importance of documentation. It explains how documentation is essential for the preservation of financial records, and how it can be used to ensure the accuracy and reliability of financial information.

12. The twelfth part of the document discusses the importance of security. It explains how security is essential for the protection of financial information, and how it can be used to ensure the confidentiality and integrity of financial data.

13. The thirteenth part of the document discusses the importance of compliance. It explains how compliance is essential for the adherence to financial regulations, and how it can be used to ensure the accuracy and reliability of financial information.

Where tree regeneration is anticipated to be problem in places within the area, due to the intensity of the insect activity, the timber purchaser would be required to protect the healthy, advanced reproduction. No green (live) trees over 12 inches in diameter would be harvested. Live trees under 12 inches would only be harvested after site-specific determinations are conducted related to tree vigor and wildlife use.

Project design features (PDFs) are specific measures included in the design of an activity to minimize adverse impacts on the environment and are attached.

The use of prescribed fire is an alternative to timber harvesting. This alternative has limited potential because:

- a. the heavy fuel loading severely constrains opportunities for prescribed fire limiting the weather conditions needed for a successful burn.
- b. the heavy fuel loading could also create very high burning temperatures, which can impact the soil resource, and reduce long term productivity.
- c. terrain and vegetation conditions may not facilitate any prescribed burning in an area. Natural fuel breaks are sometimes not available.
- d. the costs involved with implementing a prescribed burn would be similar to a salvage timber sale, but there would be no return revenue to offset these costs.

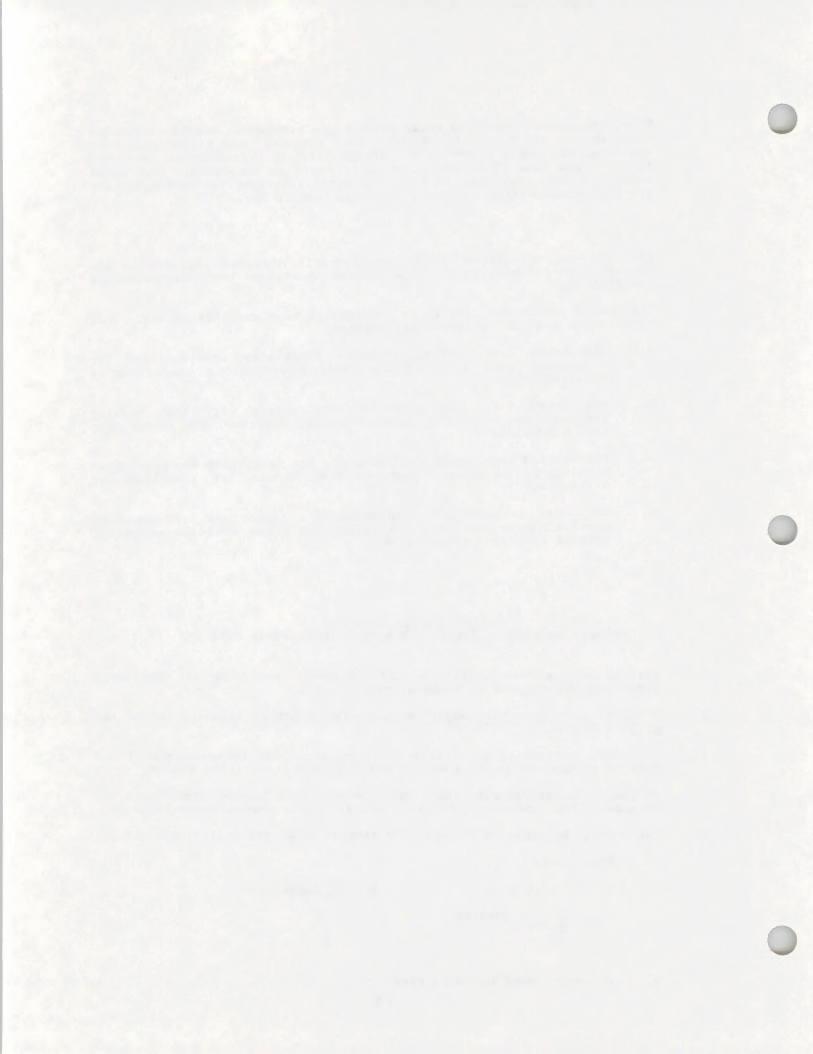
#### Project Design Features for Forest Management Activities Within the Laramie Peak HMP

1. Intermittent stream crossings with equipment would be at designated locations and subject to seasonal restrictions.
2. A raptor nest inventory would be conducted prior to finalization of any project layout.
3. No timber harvesting activities would be permitted between April 1 and June 30 to prevent impacts during the big game parturition period.
4. No timber harvesting activities would be permitted between September 1 and November 30 to prevent disturbance activities to recreational hunters.
5. Snags would be reserved for wildlife habitat under the following criteria:

a. Hard Snags

<u>DBH</u>	<u>No. of snags/acre</u>
20" or greater	All
10-20"	4
6-10"	2

- b. All soft snags would be retained





- c. Reserved snags would be clumped and would be predominately located in areas that still have green trees. Where possible, these clumps will be spread throughout the area.
6. Proposed project would meet visual resource management requirements for the general area.
7. USDI-BLM Form No. 5450-3 (Contract for the Sale of Timber - Lump Sum Sale) would be used. Section 25 of the above contract provides for soil and watershed protection. Protection measures include:
- designating locations and placing restrictions on tractor stream crossings.
  - waterbarring skid trails at designated locations.
  - restricting operations to minimize soil damage (compaction, etc.) because of soil moisture conditions.
  - waterbarring and closing constructed roads.

Section 41 (Special Provisions) would include specifications on temporary road construction and maintenance, logging, slash disposal, and fire protection.

8. Prior to finalization of the project layout, all consultation required under 36 CFR 800 would be conducted to allow granting of clearance for cultural resources.
9. The following stipulation would be added to the timber sale contract:

"The Purchaser shall immediately report the discovery of any object(s) or resource(s) of cultural value discovered as a result of operations under this contract to the Authorized Officer. The Purchaser shall suspend all activities in the vicinity of such discovery until notified to proceed by the Authorized Officer. The Authorized Officer shall evaluate, or have evaluated, such discoveries not later than five (5) working days after being notified and shall determine what action shall be taken with respect to such discoveries. The cost of this initial evaluation shall be the responsibility of the government. Any cost to the Purchaser which results from this initial suspension shall be borne by the Purchaser. The decision as to the appropriate measures to mitigate adverse effects to significant cultural resources shall be made by the Authorized Officer after consulting with the Purchaser. If avoidance is possible and the Purchaser and the Authorized Officer agree to this avoidance, the contract shall be modified accordingly. However, if avoidance is not possible, or if avoidance is possible but the Purchaser elects, with the approval of the Authorized Officer, to continue as per the original contract, the Purchaser shall be responsible for the cost of any additional investigations necessary for the evaluation, and for any mitigative measures."

.37B Livestock Grazing Management Applicable to the Wildlife Program

At this time there are not any AMPs planned, implemented or monitored within the HMP Area. There are two (2) planned CRMs for the PRRA that will be discussed at the EA level if the particular proposed project includes these. All proposed projects will coordinate wildlife habitat improvement objectives with livestock management objectives at the EA level. There are areas where livestock and wildlife objectives are in conflict, therefore, these will be addressed at the

1. The first part of the document is a letter from the President of the United States to the Congress, dated January 3, 1862. It is a very important document, as it contains the President's annual message to Congress.

2. The second part of the document is a report from the Secretary of the Interior, dated January 10, 1862. It contains information about the land and resources of the United States.

3. The third part of the document is a report from the Secretary of the Treasury, dated January 15, 1862. It contains information about the financial state of the United States.

4. The fourth part of the document is a report from the Secretary of the War, dated January 20, 1862. It contains information about the military forces of the United States.

5. The fifth part of the document is a report from the Secretary of the Navy, dated January 25, 1862. It contains information about the naval forces of the United States.

6. The sixth part of the document is a report from the Secretary of the Department of the Interior, dated February 1, 1862. It contains information about the land and resources of the United States.

7. The seventh part of the document is a report from the Secretary of the Department of the Treasury, dated February 5, 1862. It contains information about the financial state of the United States.

8. The eighth part of the document is a report from the Secretary of the Department of the War, dated February 10, 1862. It contains information about the military forces of the United States.

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11. The eleventh part of the document is a report from the Secretary of the Department of the Treasury, dated February 25, 1862. It contains information about the financial state of the United States.

12. The twelfth part of the document is a report from the Secretary of the Department of the War, dated March 1, 1862. It contains information about the military forces of the United States.

13. The thirteenth part of the document is a report from the Secretary of the Department of the Navy, dated March 5, 1862. It contains information about the naval forces of the United States.

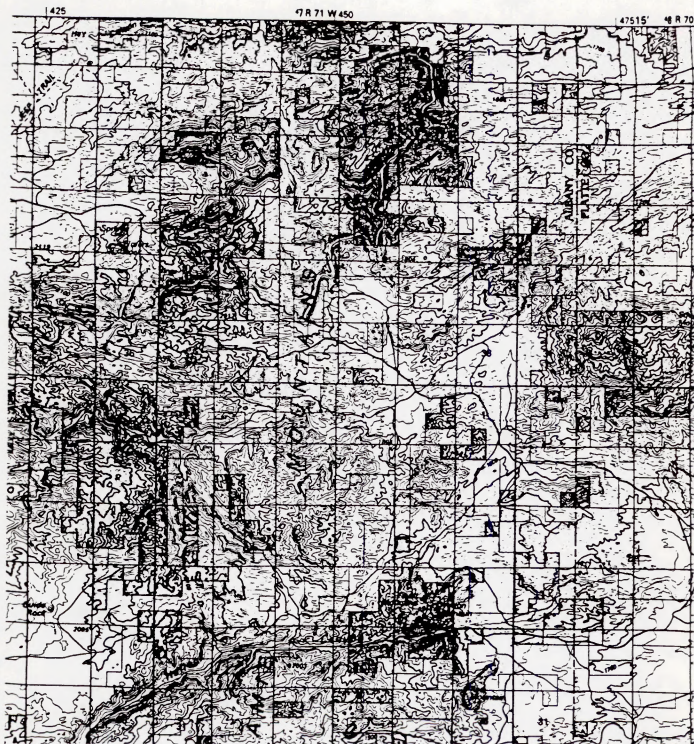
14. The fourteenth part of the document is a report from the Secretary of the Department of the Interior, dated March 10, 1862. It contains information about the land and resources of the United States.

15. The fifteenth part of the document is a report from the Secretary of the Department of the Treasury, dated March 15, 1862. It contains information about the financial state of the United States.

16. The sixteenth part of the document is a report from the Secretary of the Department of the War, dated March 20, 1862. It contains information about the military forces of the United States.

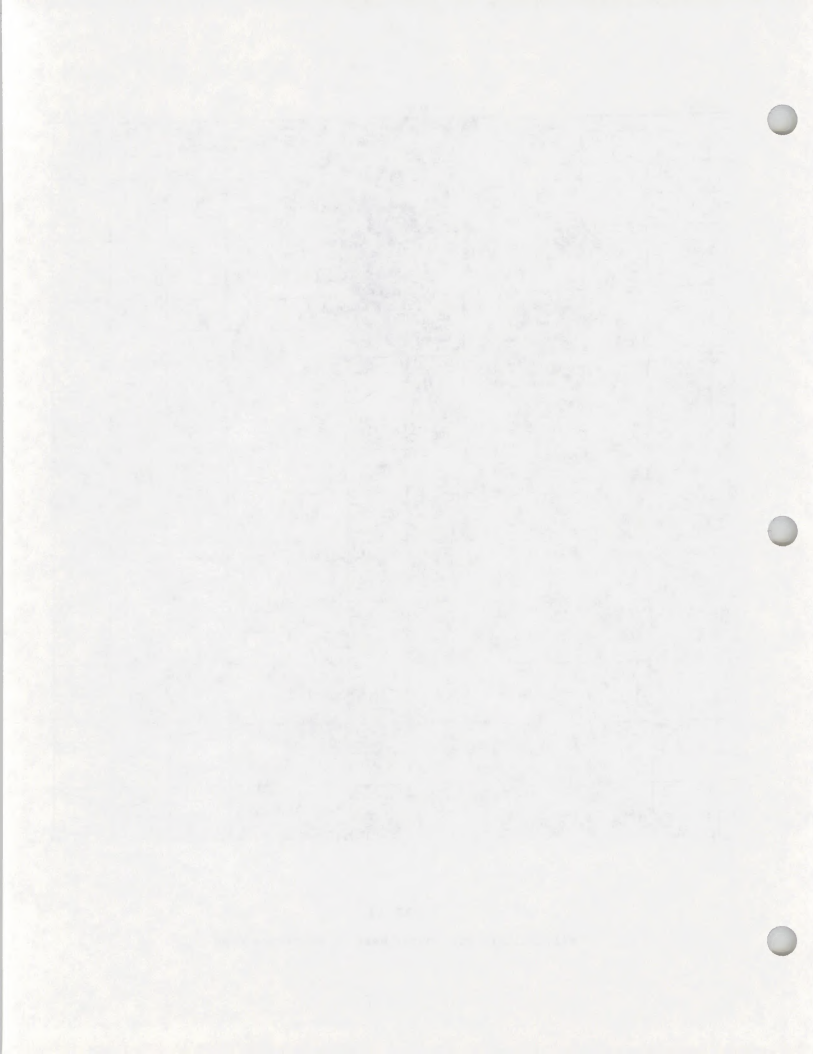
17. The seventeenth part of the document is a report from the Secretary of the Department of the Navy, dated March 25, 1862. It contains information about the naval forces of the United States.

18. The eighteenth part of the document is a report from the Secretary of the Department of the Interior, dated April 1, 1862. It contains information about the land and resources of the United States.

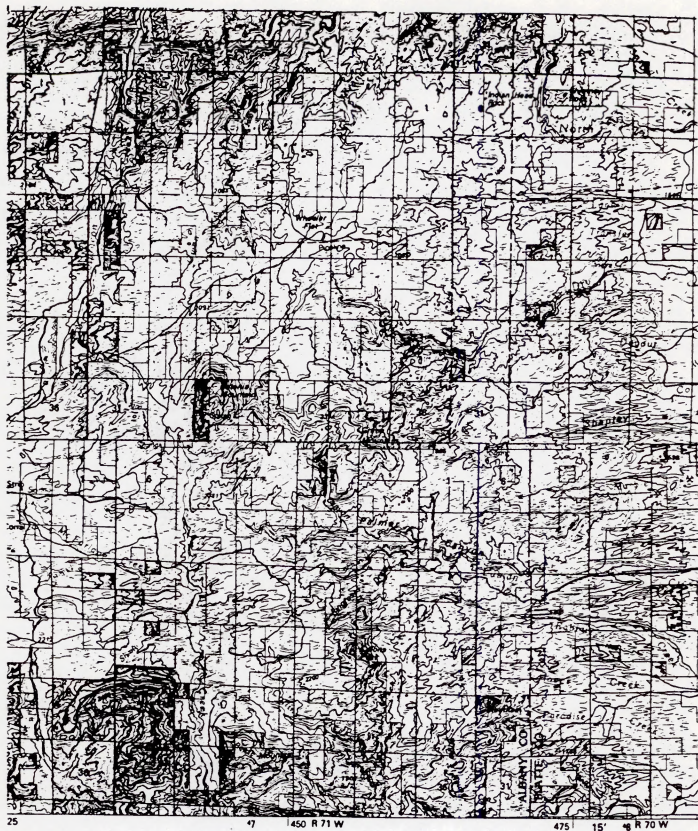


MAP 13

Silviculture Procedures West of Moonshine Peak





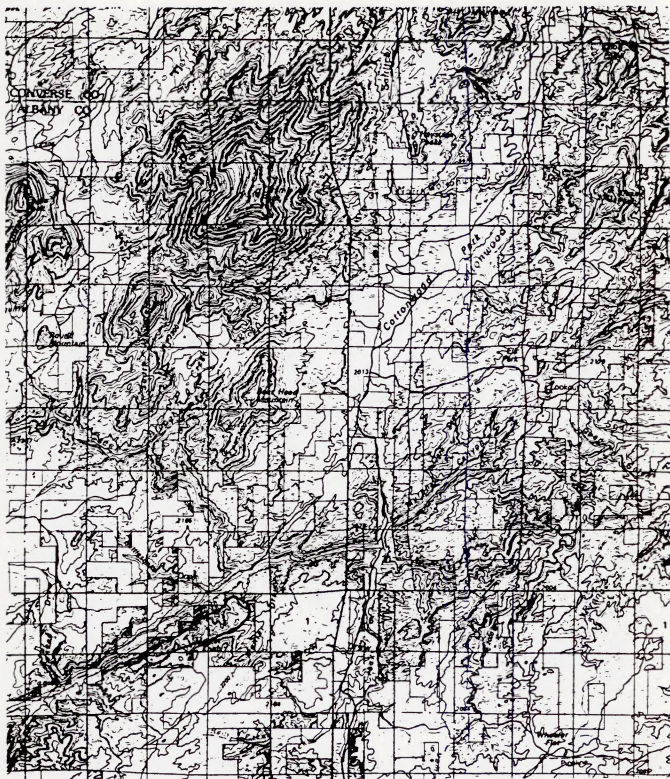


MAP 14

Silviculture Procedures for Britannia Mountain/Pine Mountain

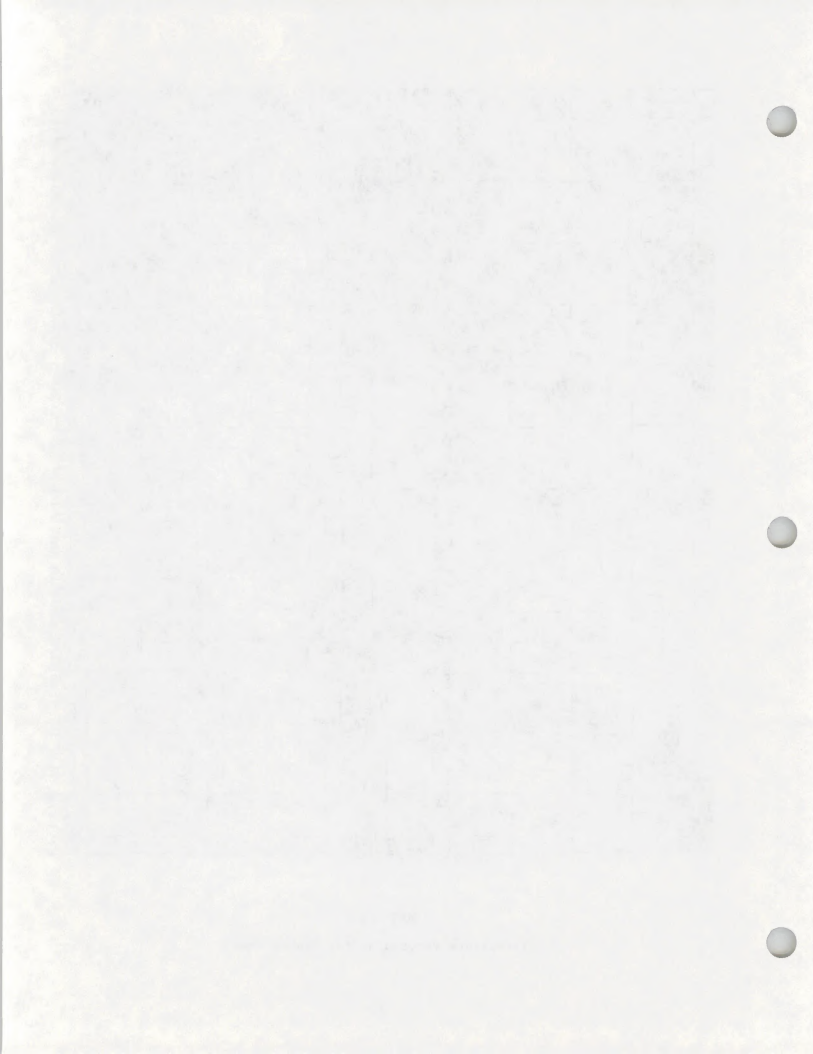


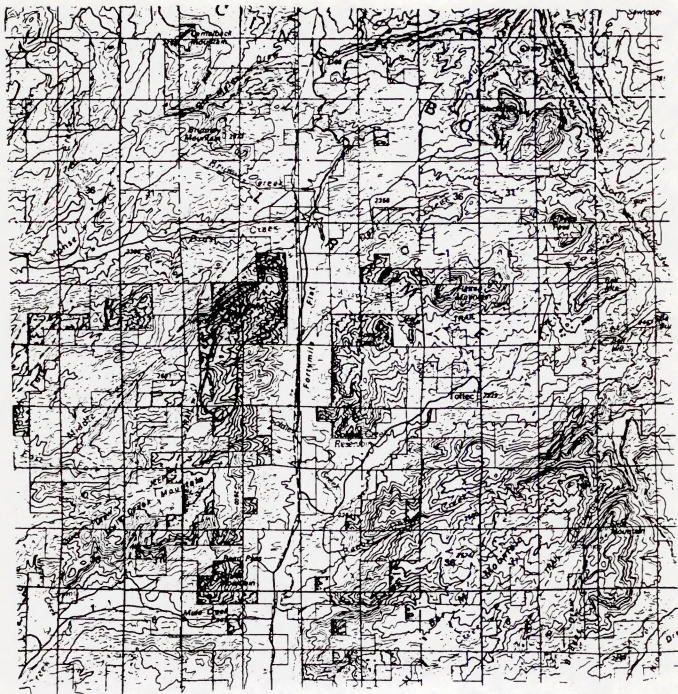




MAP 15

Silviculture Procedures for Mentor Draw

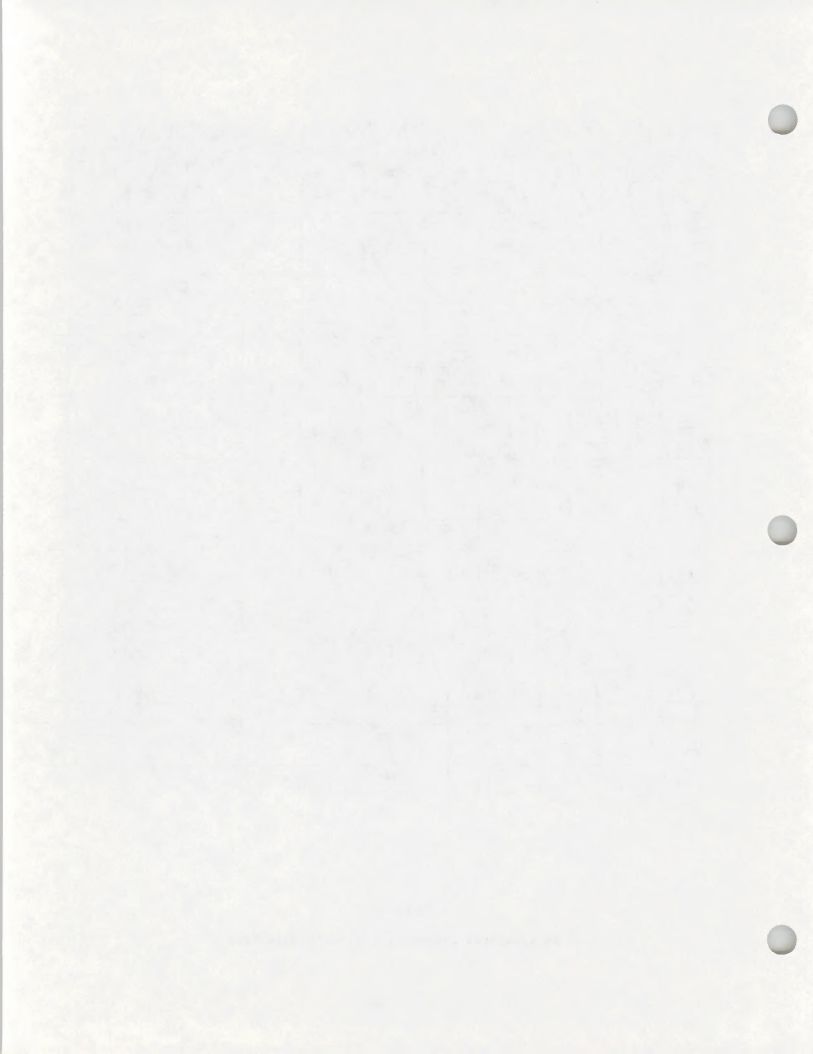




MAP 16

Silviculture Procedure for Forty Mile Peak







EA level. A livestock grazing schedule does exist for the HMP Area and is recorded at both the GDRA and PRRA offices, but, due to the vastness of this area any questions pertaining to livestock management can be obtained at these offices and will be addressed at the individual EA level. A cumulative approach will be utilized as more EAs are implemented. The GDRA RMP/EIS is the livestock EIS in the HMP Area. Habitat types are located in Appendix II of the HMP Plan.

#### .37C Recreation Activities Relative to the Wildlife Program

Recreation management objectives, according to the GDRA RMP, are to ensure the continued availability of outdoor recreational opportunities, to meet legal requirements for the health and safety of visitors and to mitigate conflicts with other resource use.

Most of the HMP is in the Visual Resource Management Class 3 area. The Shirley Basin area is in a Class 4 area, and the area bordering Medicine Bow National Forest is in a Class 2 area. The Visual Resource Management objective is to minimize adverse effects on visual resources while maintaining the effectiveness of land-use allocations. The classes range from Class 1 which requires that man's influence be substantially unnoticeable to Class 4 which allows obvious human impacts.

No site plans, interpretive programs, or managed recreational developments are existing or planned on BLM lands within the portion of the HMP that lies within the GDRA. No wilderness study areas lie within or adjacent to the HMP Area. No Special Recreation Permittees have basecamps authorized within the HMP Area.

Historic recreational use of the HMP Area has been primarily dispersed hunting and fishing. Big game herds enhance the perceived value of hunting and wildlife viewing opportunities in the HMP Area. Herd size maintenance or increases would be beneficial for these purposes.

Wheatland Reservoir #3, roughly 30 miles north of Laramie, has been developed for recreation by the WGFD. Most of the other watersheds and waterways within the GDRA portion of the HMP have little or no legal access to adjoining public lands (see .34A.5.b).

Off-road vehicle policy in the GDRA and PRRA requires motorized vehicles to stay on existing roads and trails within the HMP Area (see .34A.5.b). Over-the-snow vehicles may be used, provided they do not adversely affect wildlife or vegetation.

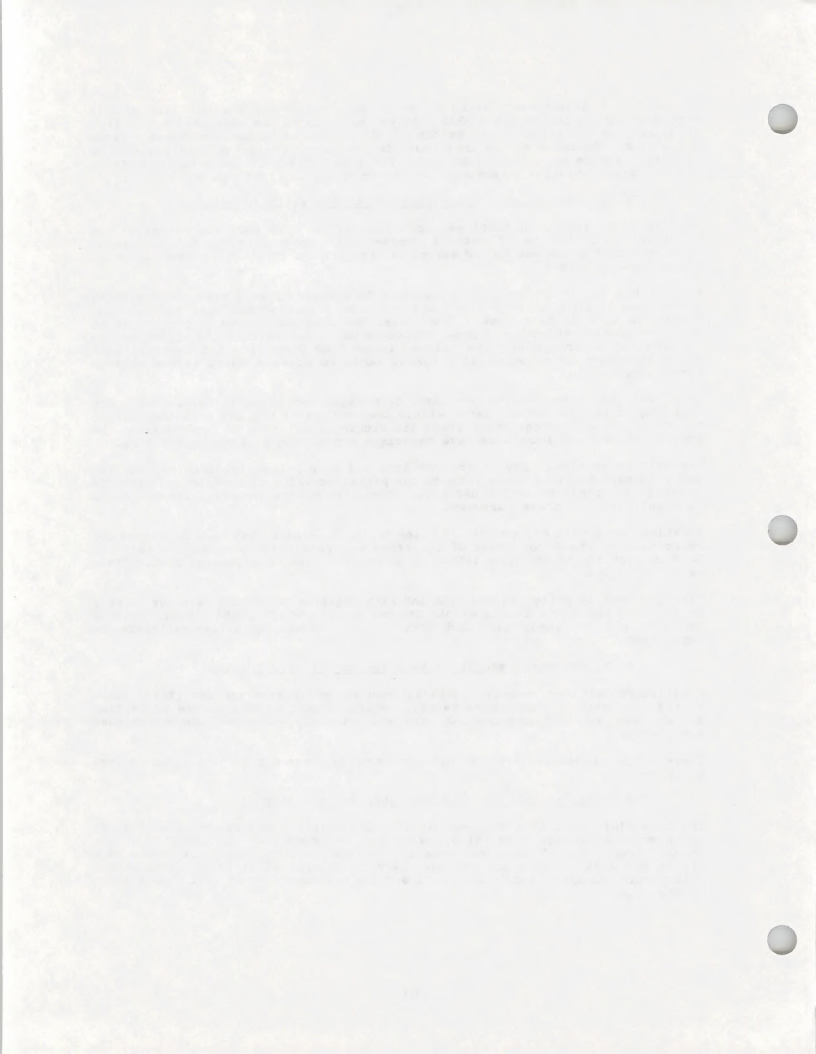
#### .37D Wilderness Designation Relative to Wildlife Programs

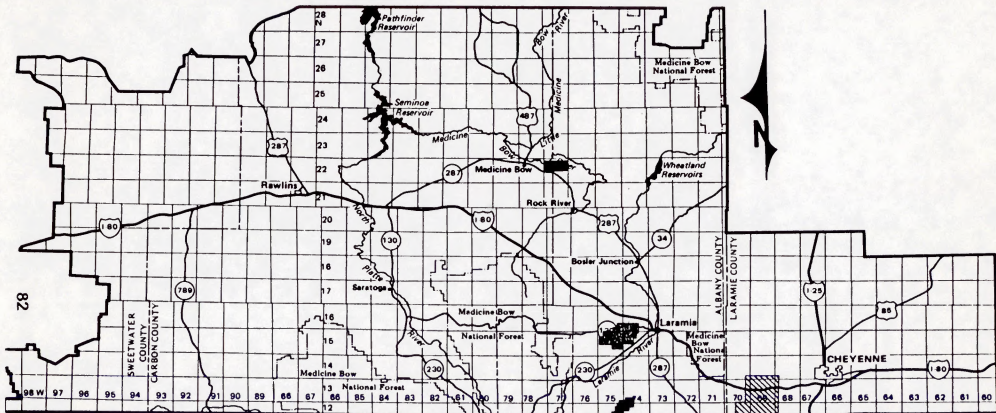
Wildlife populations, especially threatened and endangered species (T&E), are a significant part of wilderness values. Wildlife contributes to the perception of a place as "untrammelled" by man and strongly enhances the wilderness experience.

There are no wilderness areas or wilderness study areas within or adjacent to the HMP Area.

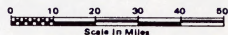
#### .37E Areas of Critical Environmental Concern (ACECs)

The Como Bluff ACEC is a National Natural Landmark managed for paleontological and historical values five (5) miles east of Medicine Bow. It does lie within the HMP Area. Map 17 shows the location of this landmark, which is on the edge of the HMP Area. There are not any plans to develop wildlife projects within this particular area, and if this does occur a site-specific EA will be completed at that time.



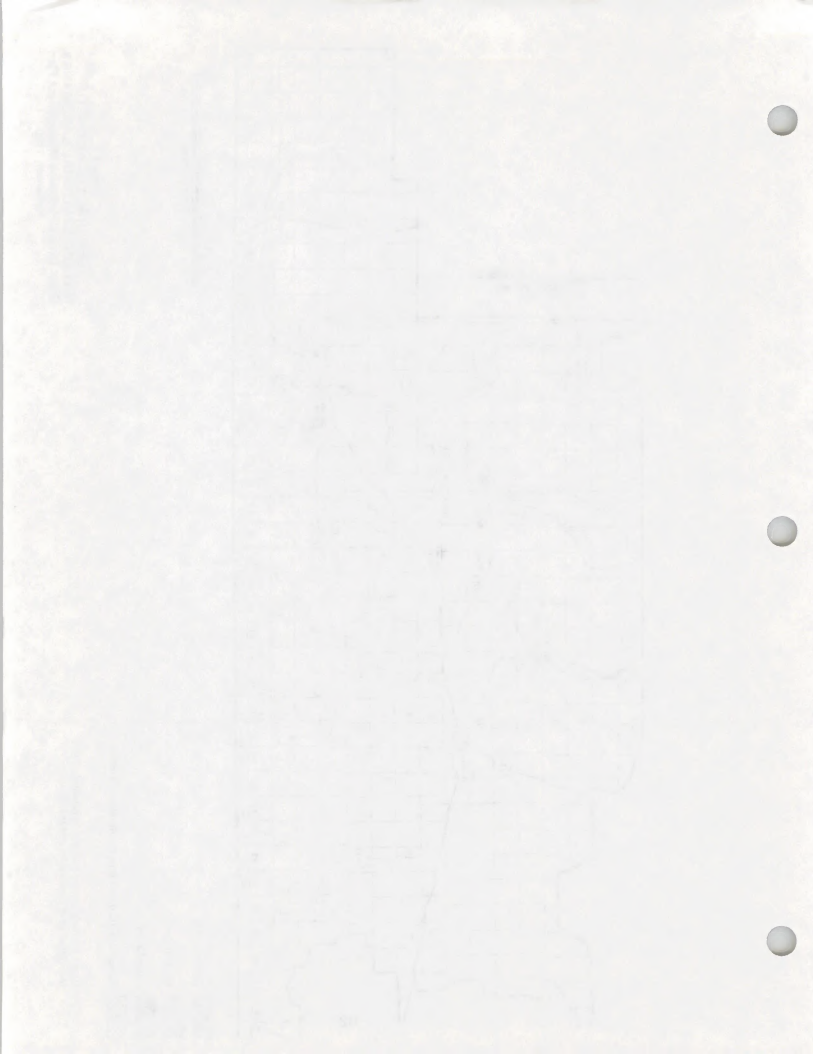


- Como Bluffs
- Big Hollow
- Sand Creek
- Gangplank (Currently in Nomination Process)



Note: Boundaries are illustrated precisely on individual land ownership status maps.

**Map 17**  
**GENERAL LOCATIONS OF**  
**NATIONAL NATURAL LANDMARKS**  
**Greet Divide Resource Management Plan**  
**November, 1990**





.37F Soil, Water and Air Resources Relative to the Wildlife Program

.37G Wild Horse and Burro Resources in the HMP Area

There are not any wild horses or burros presently located in the HMP Area and probably will not be any in the near future.

.37H Energy and Minerals Development Activities in the HMP Area

At this time, relative to the existing energy and minerals program for BLM public lands, the Shirley Basin uranium mines are no longer operating and all of these mines are in some stage of final reclamation. Bentonite is known to occur in the Shirley Basin area, however, no known plans exist to mine the material.

Exploration for uranium is occurring to locate further uranium deposits, however, mining methods would probably be in-situ.

Sunrise Stone is producing tile rock slabs from a quarry on the Kennedy Ranch, which is located on private and State lands. The processing plant is located near Wheatland, the eastern fringe of the HMP Area.

Again, there is continued reclamation processes occurring on the uranium mines. At this time, there is no known mineral activity planned in the HMP Area.

.37I Fire Management Program Relative to Habitat Objectives

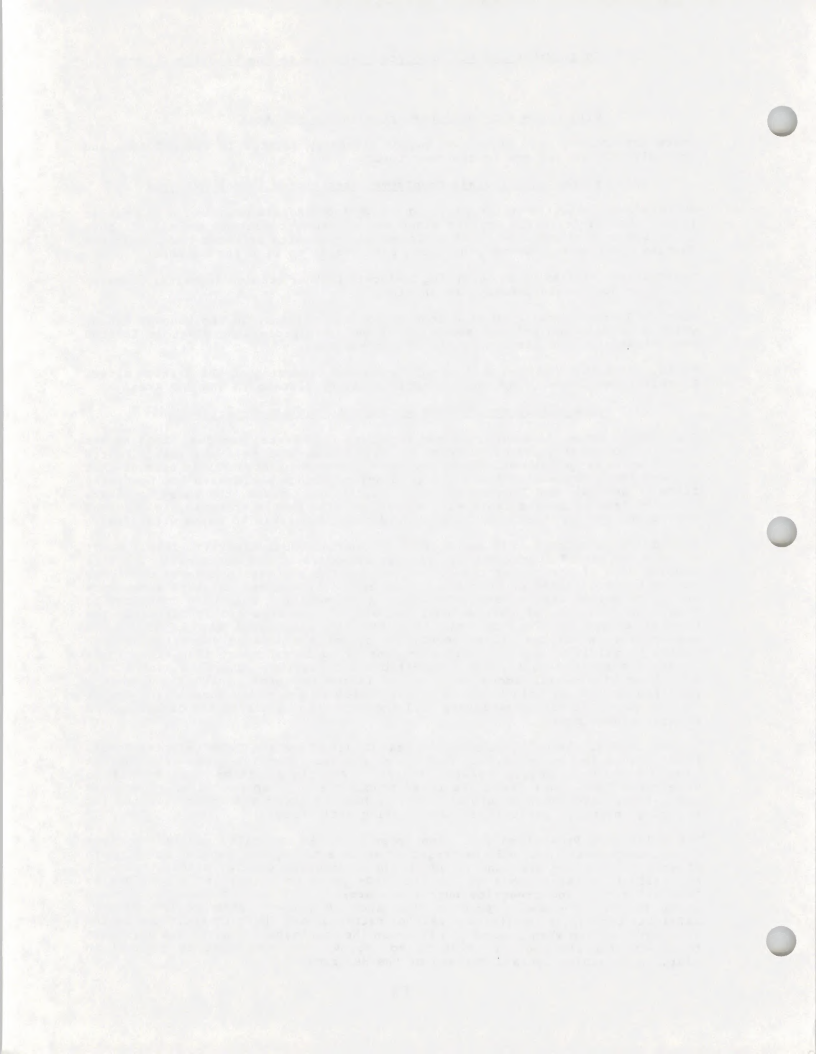
The Laramie Range has been protected from fire for several decades. Logging has been limited to areas of easy access and high timber quality. As a result, parts of the sheep range have succeeded towards a timber-dominated climax species that appears to be segmenting the sheep population. Since there have not been many fires in general, and logging is not evident in many areas, the sheep herds are becoming fragmented and isolated. A mountain pine beetle epidemic has occurred throughout the HMP Area resulting in conditions favorable to large wildfires.

A wildfire in October 1974 south of Split Rock and Duck Creek (T. 24 N., R. 71 W., Sec. 3) burned approximately 3,100 acres before it was contained. The fire removed some of the timber canopy, suppressed the succession towards conifers, and stimulated forage on both the summer and winter range. Bighorn sheep were using the burned area extensively within a few months. That burn continues to draw bighorn sheep, as well as deer and elk, to the area and is basically the natural ecosystem platform that this HMP and associated EAs is trying to accomplish. Wildfires, if extremely large, can often cause extensive habitat losses to wildlife, but if smaller or controlled fires occur, then often these losses are reduced to favorable conditions and results. There is such a vast amount of beetle-kill among the forests in the HMP Area, that if and when a wildfire occurs, at this time, it will probably be extremely drastic and large. In this event, it may cause severe soil and vegetation scarring and damage beyond natural conditions.

In 1986, two (2) large fires occurred near Collins Peak and Three Cripples Creek, both located in the HMP Area. Both fires removed extensive areas of ponderosa pine forest near rugged escape habitat. Additional fires have burned in Government Peak, Duck Creek, Bearhead Mountain and Sheep Mountain. The areas where fires have occurred are utilized by bighorn sheep and other wildlife for foraging, nesting, parturition, and resting activities.

The Split Rock Prescribed Burn (see Appendix X) is basically similar to fires that the agencies involved are trying to achieve to improve habitat for bighorn sheep. Since there are many large stands of diseased conifer stands that will naturally burn (although some may take 100+ years to do so) it is possible to "assist" nature and prescribe burn these areas in the near future for bighorn sheep herds. The major problem that the BLM agency faces is the danger, difficult terrain, unpredictable weather patterns, and changing attitudes of the Washington Office when it comes to burns on the mountains. Windows are difficult to reach, therefore other projects to improve habitats must be planned in addition to ensure overall success of the HMP project.





.37J Archeology/Paleontology Activities Relative to Wildlife

The management objectives for these resources in the GDRA and PRRA are to protect and preserve representative samples of the full array of cultural resources for the benefit of scientific and socio-cultural use by present and future generations. These resources are non-renewable and any activity that occurs at the individual proposed project areas will be assessed for such resources at the EA level. The GDRA RMP also ensures that cultural resources are given full consideration in all land-use planning and management decisions. Cultural clearances will be completed on a site-specific basis for each EA so that the BLM personnel can manage cultural resources so that scientific and socio-cultural values are not diminished, but rather are maintained and enhanced. It is critical that any activity in the Laramie Peak HMP Area and associated proposed projects avoid inadvertent damage to cultural resources both federal and nonfederal.

The BLM will conduct Class I, II, or III inventories for actions involving BLM administered public land and/or federal minerals that include surface disturbance as part of the action. At this time, there are not any plans for mineral development in the area (see .37H) to occur, however, if it does occur, then cultural clearances must be completed for the area.

The BLM will also evaluate the significance of cultural resources identified in consultation with the Wyoming State Historic Preservation Office to determine whether the resources are eligible for inclusion on the National Register of Historic Places.

The BLM will categorize cultural resources for management purposes (e.g. public use, scientific, socio-economic) for each proposed project at the EA level.

The above actions will be carried out for each site-specific action (15 total) in accordance with law, policy, and guidance to meet the objectives for cultural resources management.

1. The first part of the report deals with the general situation of the country and the progress of the work during the year. It is divided into two main sections: the first section deals with the general situation of the country and the progress of the work during the year, and the second section deals with the specific work done during the year.

2. The second part of the report deals with the specific work done during the year. It is divided into three main sections: the first section deals with the work done in the field, the second section deals with the work done in the laboratory, and the third section deals with the work done in the office.

3. The third part of the report deals with the conclusions of the work done during the year. It is divided into two main sections: the first section deals with the conclusions of the work done in the field, and the second section deals with the conclusions of the work done in the laboratory and the office.

4. The fourth part of the report deals with the recommendations for the future work. It is divided into two main sections: the first section deals with the recommendations for the work done in the field, and the second section deals with the recommendations for the work done in the laboratory and the office.

.37K Support Activities Relative to Implementing the HMP

These activities involve the subactivity needs of the BLM agency for cadastral surveys; road, trail and building construction; and land easement acquisitions. These activities support the HMP implementation, however, due to the size and nature of this particular HMP, they will have to be planned, implemented and monitored at the individual project proposal (e.g 15 total sites) EA level. At this level, the support needs in terms of FYs, dollars, and workmonths will be stated. This process at the EA level will serve as a budgetary vehicle to obtain funds for support activities. Any land and realty actions that are needed, including acquisitions (exchange or other acquisition authority) or protective withdrawals, agencies and private parties involved, locations, and time frames will be discussed at the site-specific proposed project EA level.

.37L Other Areas of Coordination Required to Implement the HMP

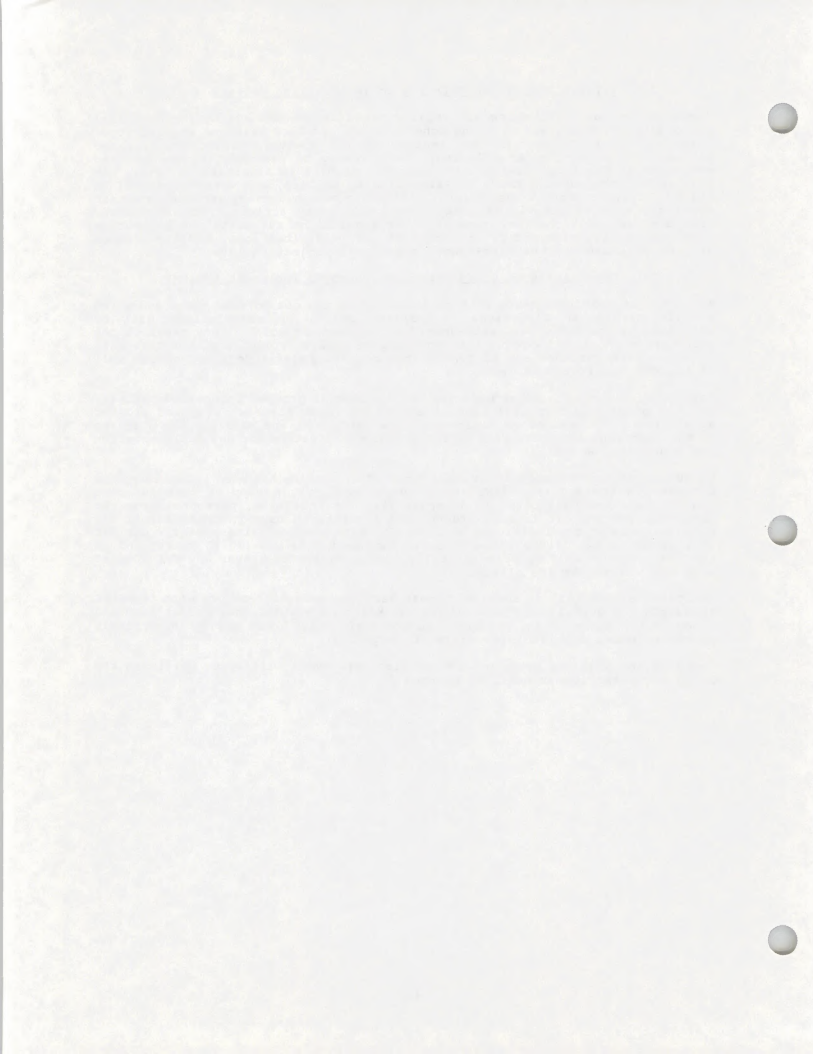
Any areas of coordination or actions needed which are not covered above and which specify particular directives, uncodified rules, or restrictions will be addressed at the individual site-specific proposed project EA. Any restrictions which are authorized by regulation and require public notice (i.e. ORV closures, firearms restrictions, use of fires) that require Federal Register notice will be implemented at the EA level.

Any coordination with other agencies, environmental groups, interested parties, and the general public will be done at the EA level for each proposed project area. There has been coordination with the USFS, BLM, and WGFDP for the planning of this document and there will be additional coordination for the implementation and monitoring as well.

Consultation for threatened and endangered (T/E) species has been informally done between the BLM and the USFWS in Cheyenne, Wyoming. A copy of that informal consultation can be located in Appendix III. At this time, personnel from the USFWS believe that it is more prudent and accurate to have informal/formal T/E consultations at the individual EA level for each proposed site-specific habitat improvement area. Since this HMP is an extended document (10-15 years) and is vast in scope it will be scientifically more accurate to assess any T/E species when individual EAs are planned.

Operations that fall on the U.S. Forest Service Lands will comply with the USFS standards and guidelines found within the Medicine Bow National Forest Land and Resource Management Plan, presently in pre-draft stage. The agency is currently operating under the 1985 plan (refer to page 25).

Coordination with the Wyoming Game and Fish Department will occur utilizing the Sikes Act Authority as outlined on page 25.





.37K Support Activities Relative to Implementing the HMP

These activities involve the subactivity needs of the BLM agency for cadastral surveys; road, trail and building construction; and land easement acquisitions. These activities support the HMP implementation, however, due to the size and nature of this particular HMP, they will have to be planned, implemented and monitored at the individual project proposal (e.g 15 total sites) EA level. At this level, the support needs in terms of FYs, dollars, and workmonths will be stated. This process at the EA level will serve as a budgetary vehicle to obtain funds for support activities. Any land and realty actions that are needed, including acquisitions (exchange or other acquisition authority) or protective withdrawals, agencies and private parties involved, locations, and time frames will be discussed at the site-specific proposed project EA level.

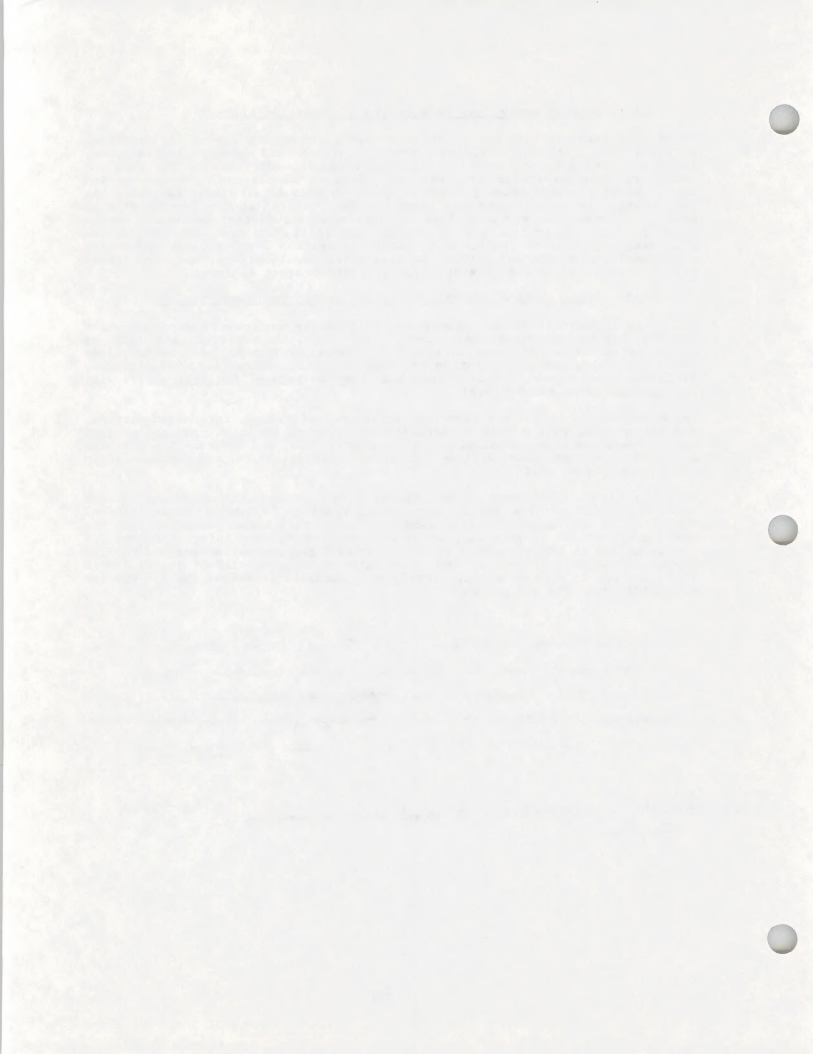
.37L Other Areas of Coordination Required to Implement the HMP

Any areas of coordination or actions needed which are not covered above and which specify particular directives, uncodified rules, or restrictions will be addressed at the individual site-specific proposed project EA. Any restrictions which are authorized by regulation and require public notice (i.e. ORV closures, firearms restrictions, use of fires) that require Federal Register notice will be implemented at the EA level.

Any coordination with other agencies, environmental groups, interested parties, and the general public will be done at the EA level for each proposed project area. There has been coordination with the USFS, BLM, and WGFD for the planning of this document and there will be additional coordination for the implementation and monitoring as well.

Consultation for threatened and endangered (T/E) species has been informally done between the BLM and the USFWS in Cheyenne, Wyoming. A copy of that informal consultation can be located in Appendix III. At this time, personnel from the USFWS believe that it is more prudent and accurate to have informal/formal T/E consultations at the individual EA level for each proposed site-specific habitat improvement area. Since this HMP is an extended document (10-15 years) and is vast in scope it will be scientifically more accurate to assess any T/E species when individual EAs are planned.

- \* Operations that fall on USFS lands will comply with USFS Standards and Guidelines found within the Medicine Bow National Forest ~~Therese Basin~~ Land and Resource Management Plan, presently in pre-draft stage. Operating under the 1985 plan. (Refer to page 25).
- \* Conflicts w/ existing WGFD land use documents. (List areas)  
Such as:



### .38 Wildlife Economics

The Laramie Peak HMP must represent either the least costly approach for accomplishing precisely specified objectives (e.g. improve/increase bighorn sheep populations in the Laramie Range) or the most beneficial approach to solving the general problems or goals identified in the HMP. There are both priced and non-priced accomplishments that can be analyzed for the HMP, but to utilize the best available data and considering the overall time constraints of the 15 individual projects, these factors should be analyzed on a site-by-site basis. The general HMP objectives will benefit society on an intrinsic value since the projects will increase bighorn sheep and other wildlife populations as a whole.

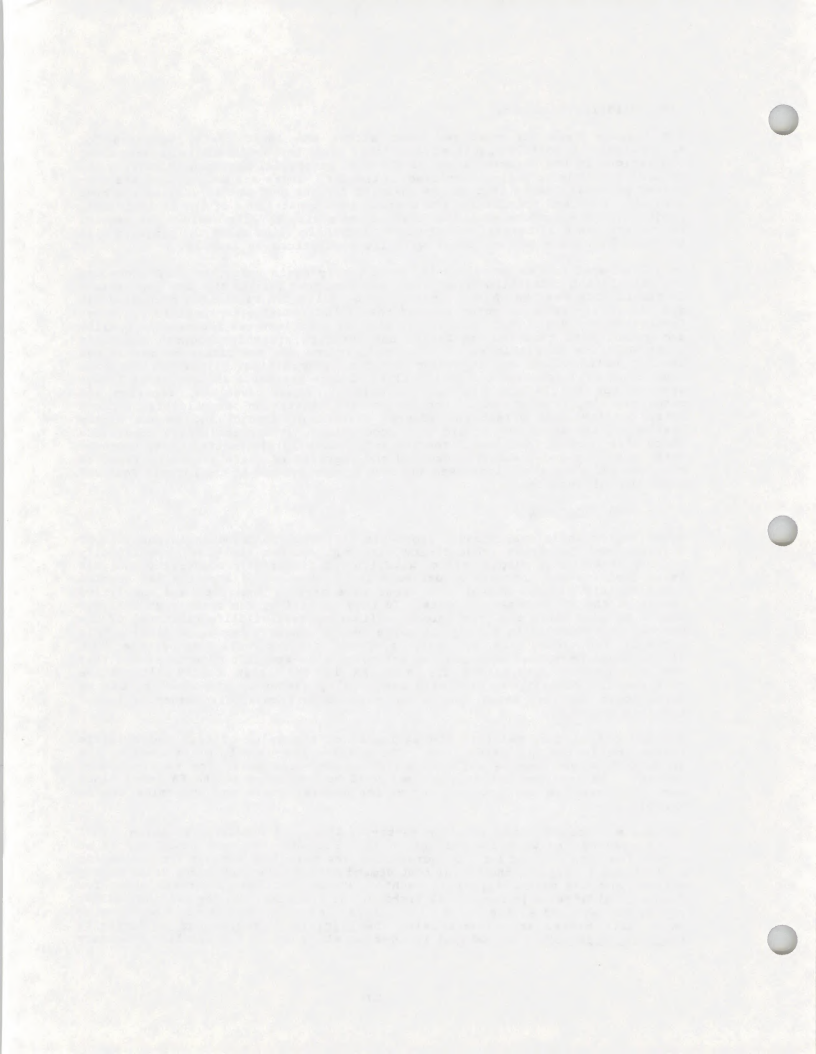
Tangible benefits can be calculated on a yearly basis using the WGFD procedure for calculating recreation days/hunter success rates for the big game populations in the Laramie Peak HMP Area. Intangible benefits can be derived both directly and indirectly from the objectives of the 15 individual site-specific projects. Prescribed burns and small commercial logging practices can improve the quality and quantity of required vegetation and foraging areas for bighorn sheep and other wildlife populations. Fence modifications can restrict some cattle use thereby maintaining and improving riparian communities. Improved riparian conditions will increase the availability of more palatable and desirable forage species for cattle and big game animals. Aquatic/wetland, riparian and reservoir improvements will increase desired vegetation for wildlife, improve water quality, and offset the adverse effects of drought and severe winter weather on the stability of big game populations. These cumulative conditions which will lead to increased fisheries and other wildlife habitat uses, improved water quantity and quality, increased and improved wildlife diversity (species richness and evenness), increased and more productive use of the Laramie Peak HMP Area natural resources.

#### .38A Methods

Benefits for individual project proposals (15) will be based on an analysis of wildlife and fisheries productivity with and without the plan, specifically bighorn sheep. The purpose of the wildlife and fisheries productivity analysis is to estimate the increase or decrease in the numbers of a particular species (particularly bighorn sheep) that occur as a direct, indirect, and cumulative result of the 15 proposed projects. In this situation, the least-cost analysis should be used since the principle benefits (improved wildlife habitats) of the HMP can be estimated in biological terms versus monetary terms. Utilizing this concept, individual EAs for each proposed project will demonstrate that alternatives have been examined for achieving site-specific objectives and that the recommended alternative for each EA is the least costly alternative considered. Benefit/cost analysis are usually used when the benefits can be measured in monetary terms, which, under these particular circumstances is not a viable approach.

The BLM office does maintain its estimates of the value of fish and wildlife recreation in the BLM price file. These files are usually maintained at the State Office and can be utilized on a case-by-case basis for each proposed project. An analyses for each project will be completed at the EA level since some of these EAs may not be started for several years and economics are so dynamic.

The BLM subscribes to the willingness-to-pay theory of wildlife valuation. That is, a user day of wildlife recreation is worth what the user would pay if an access fee were charged for the recreation. The principle methods for estimating willingness to pay are the travel cost demand method, the contingent value survey method, and the market appraisal method. Where functioning markets exist for fish and wildlife as in commercial fishing, fur trapping, and pay hunting, market prices may be used as the value of wildlife. Since these markets are changing on a daily basis, an analysis using the Wildlife Economics and Productivity Analysis Guidebook, a method that follows the BLM's policy for wildlife economics





and which is available at the GDRA office, will be used for each site-specific proposed project EA (15 total).

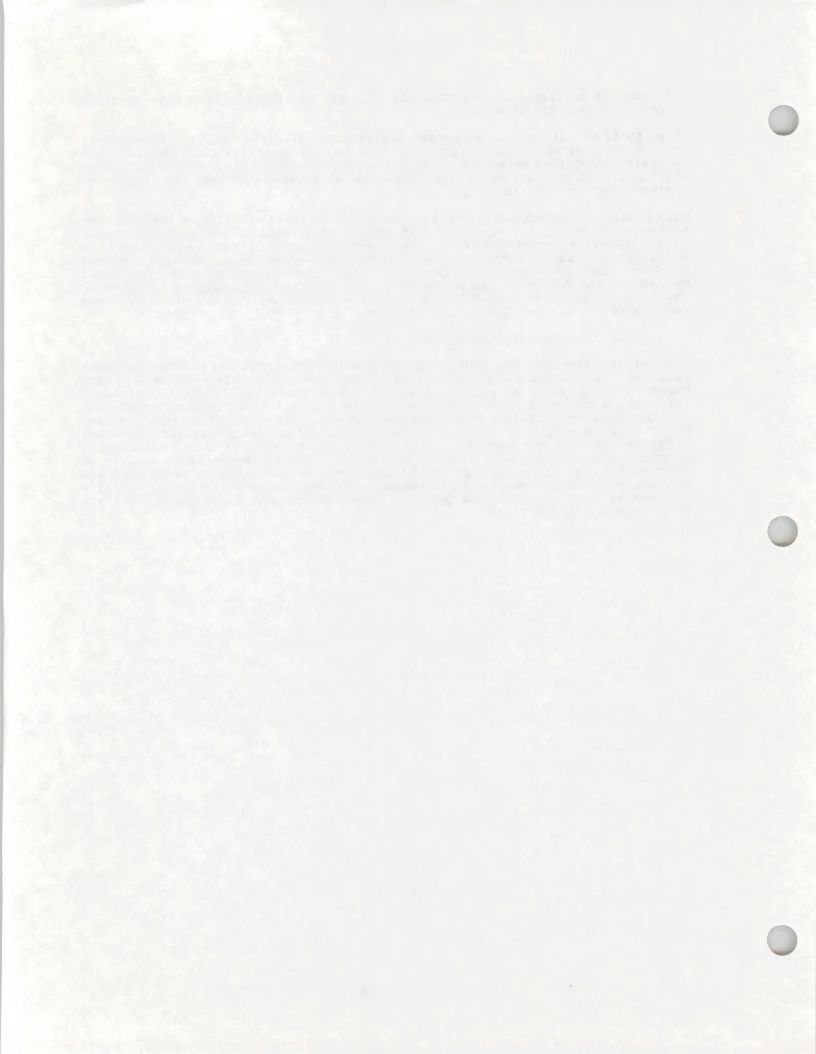
If an EA is utilizing the least-cost analysis for wildlife habitat improvement, it does not have to include a list of prices for the benefits. In addition, when analyzing non-priced effects on fish and wildlife productivity, for example that which protects populations of threatened and endangered species, the least-cost analysis approach can be used.

When management objectives concern priced and non-priced wildlife, a benefit/cost analysis can be applied to the priced outputs or effects of the management plan (e.g. individual project EAs). The non-priced outputs can be addressed as additional evaluation factors to be considered in evaluating and ranking projects or plans. The procedure for evaluating priced and non-priced outputs, which will be used at the EA level, can be found in the BLM Handbook H-1740-1, Chapter 6, which can be located at the GDRA office. The non-priced factors which are used are listed in section .06B of the Handbook.

#### .38B Sources of Information

Each of the fifteen (15) individual proposed project EAs will summarize data relevant to consumptive and nonconsumptive uses of the wildlife sources (e.g game harvest, hunter and fish person days, sport and commercial fisheries harvest). Information that will be developed within the EAs will also be coordinated with the BLM State and/or District Recreation Planners. The WGFD, USFS, PRRA BLM, and USFWS will be consulted for all relevant fish and wildlife harvest and other wildlife use data for each EA. Migratory wildlife species (e.g. neotropical migratory birds, bats) will also be considered. There are available sources of information that can be used at the EA level; the National Survey of Fishing and Hunting provides information on consumptive and non-consumptive use of wildlife on Federal lands, as well as private organizations and individuals that are knowledgeable in the field.





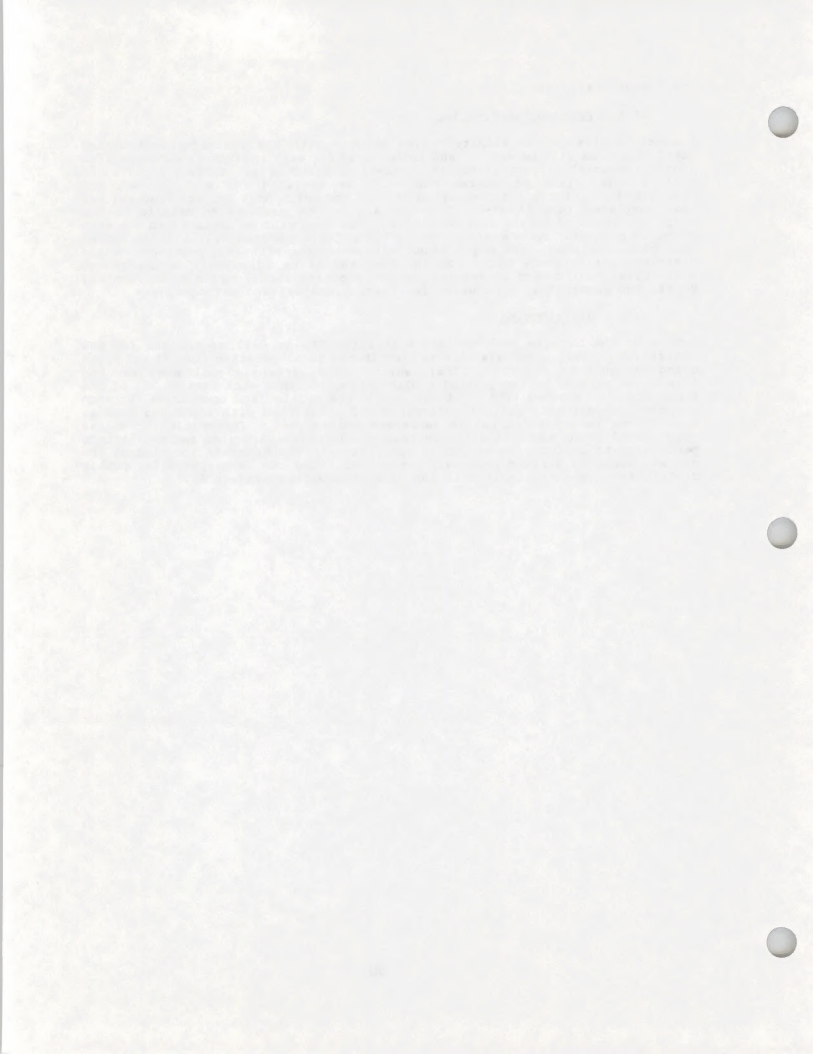
.39 Public Affairs

.39A Program Coordination

A comprehensive public affairs action program with BLM District/State Office staff personnel will be written and implemented for each individual site-specific project proposal (15 total) for the Laramie Peak HMP Area. Table 2 depicts the general information procedures that will be executed for each project and associated activities and completion dates. The Split Rock Project Proposal has been completed (BLM EA WY-037-EAO-038) and can be used as an example of the different forms of public awareness activities that will be implemented for each proposed project. At a minimum the public affairs program will include funds, personnel, equipment, and required activity needs for printing, publication, and distribution; entrance signs for the area and signs to explain on-the-ground activities; public land identification and property lines; slide shows, movies, tapes, and recordings; brochures, leaflets; graphics; and cartography.

.39B Distribution

Copies of the Laramie Peak HMP and associated EA, as well as the EAs for the individual project proposals will be distributed to cooperating federal and state agencies (such as the WGF, USFS), environmental groups, local agencies, and interested parties of the general public. In accordance with Section 201 of the FLPMA of 1976, amended 1987 (43 U.S.C. 1711) the public land boundaries for each proposed project site will be determined and identified with signs and maps as a technique in achieving public awareness and support. Information brochures (e.g. benefits to specific wildlife species and habitats, rules and regulations pertaining to restriction of public activities in the EA area) focusing on the overall benefits derived from each project activity can be prepared for public distribution upon the implementation of each proposed project EA.



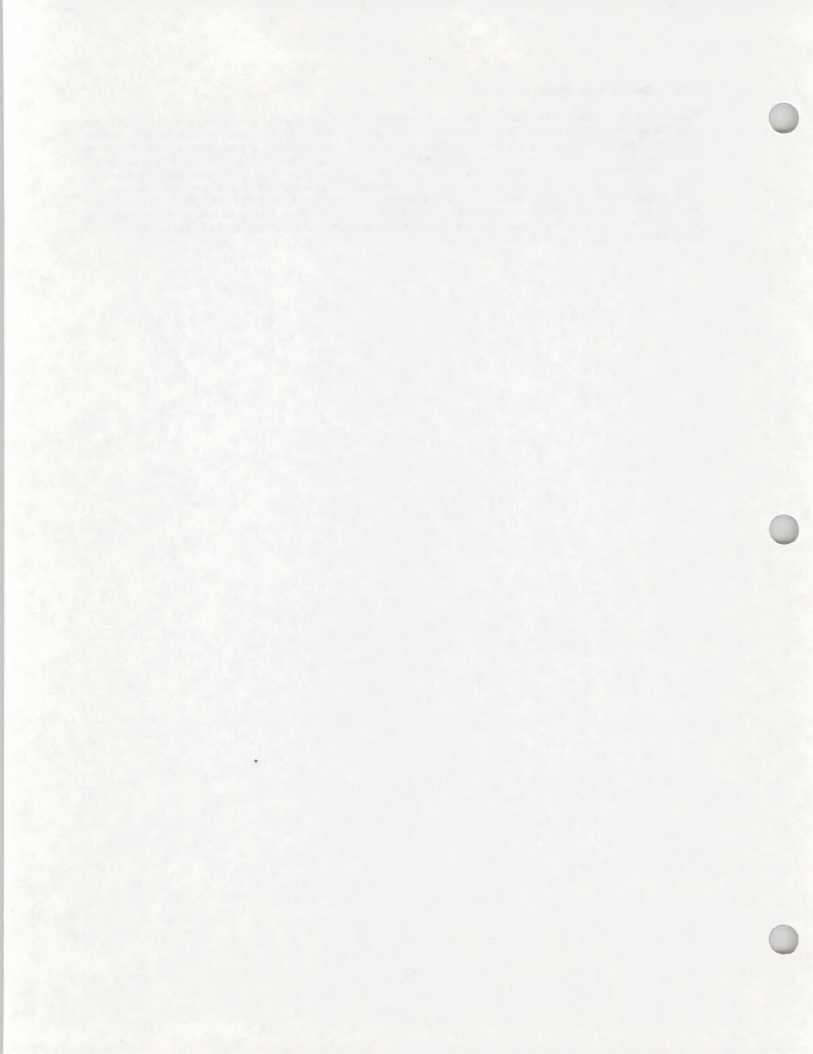






#### .40 Costs and Funding Needs

The Laramie Peak HMP contains 15 site-specific project proposals that will be assessed and analyzed on a case-by-case basis utilizing individual EAs. Table 6 provides an estimate of the funds, personnel, equipment, and procurement needs for the entire HMP project in general (over a 10-15 year time span). Tables 7-21 provide estimates of the funds, personnel, equipment, and procurement needs for individual project proposals. Since many of these activities may not occur in the immediate future, there will be numerous revisions required to accommodate shifting economic circumstances. The data on this form can assist in determining needs through the AWP and FLMA 4-Year Authorization for the wildlife subactivity and associated support activities.



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

State \_\_\_\_\_  
District \_\_\_\_\_  
Resource Area \_\_\_\_\_  
Name of HMP \_\_\_\_\_ / FY Prepared \_\_\_\_\_

FORMAT FOR SUMMARY OF HABITAT MANAGEMENT PLAN DEVELOPMENT COSTS

COST ITEM	Estimated Costs (\$000's) and Workmonths (W/M) by Development Year									
	Year 1		Year 2		Year 3		Year 4		Year 5	
	No.	\$000	No.	\$000	No.	\$000	No.	\$000	No.	\$000
	W/M		W/M		W/M		W/M		W/M	
ADMINISTRATION AND PREPARATION (Incl. Updating and Revision of HMP)										
IMPLEMENTATION:										
Project Survey and Design										
Project Work										
Public Affairs (Signs, Brochures, etc.)										
Support (Roads and Trails, Easements, Rights-of-Way, Building Construction, Access and Cadastral Survey).										
MAINTENANCE										
EVALUATION AND MONITORING (Incl. Pre/Post Treatment Studies)										
RESEARCH										
EQUIPMENT	////		////		////		////		////	
TOTAL BLM COSTS	----		----		----		----		----	
ESTIMATED CONTRIBUTIONS:										
State Wildlife Agency	////		////		////		////		////	
Federal Agencies	////		////		////		////		////	
Other	////		////		////		////		////	
Total Contributive Costs	////		////		////		////		////	

TABLE 6

Format for Summary of Habitat Management Plan  
Development Costs  
92



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

State Wyoming  
District Rawlins  
Resource Area Great Divide RA  
Name of RMP Laramie Fork / FY Prepared

COST ITEM	Estimated Costs (\$000's) and Workmonths (W/M) by Development Year									
	Year 1		Year 2		Year 3		Year 4		Year 5	
	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000
ADMINISTRATION AND PREPARATION (Incl. Updating and Revision of RMP)										
IMPLEMENTATION:										
Project Survey and Design										
Project Work										
Public Affairs (Signs, Brochures, etc.)										
Support (Roads and Trails, Easements, Rights-of-Way, Building Construction, Access and Cadastral Survey).										
MAINTENANCE										
EVALUATION AND MONITORING (Incl. Pre/Post Treatment Studies)										
RESEARCH										
EQUIPMENT										
TOTAL BLM COSTS										
ESTIMATED CONTRIBUTIONS:										
State Wildlife Agency										
Federal Agencies										
Other										
Total Contributive Costs										

TABLE 7

Summary of Development Costs for Sugarloaf





UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

State Wyoming  
District Rawlins  
Resource Area Great Divide RA  
Name of HMP Laramie Peak / FY Prepared \_\_\_\_\_

COST ITEM	Estimated Costs (\$000's) and Workmonths (W/M) by Development Year								
	Year 1		Year 2		Year 3		Year 4		Total 5 Year
	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	Costs \$000
ADMINISTRATION AND PREPARATION (Incl. Updating and Revision of HMP)									
IMPLEMENTATION:									
Project Survey and Design									
Project Work									
Public Affairs (Signs, Brochures, etc.)									
Support (Roads and Trails, Easements, Rights-of-Way, Building Construction, Access and Cadastral Survey).									
MAINTENANCE									
EVALUATION AND MONITORING (Incl. Pre/Post Treatment Studies)									
RESEARCH									
EQUIPMENT									
TOTAL BLM COSTS									
ESTIMATED CONTRIBUTIONS:									
State Wildlife Agency									
Federal Agencies									
Other									
Total Contributive Costs									

TABLE 8

Summary of Development Costs for Reese Mountain

Date		Time		Location		Remarks	

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

State Wyoming  
District Rawlins  
Resource Area Great Divide RA  
Name of RMP Laramie Fork / FY Prepared \_\_\_\_\_

COST ITEM	Estimated Costs (\$000's) and Workmonths (W/M) by Development Year									
	Year 1		Year 2		Year 3		Year 4		Year 5	
	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000
ADMINISTRATION AND PREPARATION (Incl. Updating and Revision of HMP)										
IMPLEMENTATION:										
Project Survey and Design										
Project Work										
Public Affairs (Signs, Brochures, etc.)										
Support (Roads and Trails, Easements, Rights-of-Way, Building Construction, Access and Cadastral Survey).										
MAINTENANCE										
EVALUATION AND MONITORING (Incl. Pre/Post Treatment Studies)										
RESEARCH										
EQUIPMENT										
TOTAL BLM COSTS										
ESTIMATED CONTRIBUTIONS:										
State Wildlife Agency										
Federal Agencies										
Other										
Total Contributive Costs										

TABLE 9

Summary of Development Costs for Split Rock

Date		Time		Location		Remarks	
1911	10/1	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/2	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/3	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/4	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/5	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/6	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/7	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/8	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/9	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/10	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/11	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/12	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/13	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/14	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/15	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/16	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/17	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/18	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/19	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/20	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/21	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/22	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/23	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/24	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/25	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/26	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/27	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/28	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/29	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/30	10:00	10:30	10:30	10:30	10:30	10:30
1911	10/31	10:00	10:30	10:30	10:30	10:30	10:30

10/31/11

10/31/11 10:30 AM 10:30 AM 10:30 AM 10:30 AM 10:30 AM



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

State Wyoming  
District Rawlins  
Resource Area Great Divide RA  
Name of RMP Laramie Park / FY Prepared

COST ITEM	Estimated Costs (\$000's) and Workmonths (W/M) by Development Year									
	Year 1		Year 2		Year 3		Year 4		Year 5	
	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000
ADMINISTRATION AND PREPARATION (Incl. Updating and Revision of RMP)										
IMPLEMENTATION:										
Project Survey and Design										
Project Work										
Public Affairs (Signs, Brochures, etc.)										
Support (Roads and Trails, Easements, Rights-of-Way, Building Construction, Access and Cadastral Survey).										
MAINTENANCE										
EVALUATION AND MONITORING (Incl. Pre/Post Treatment Studies)										
RESEARCH										
EQUIPMENT										
TOTAL BLM COSTS										
ESTIMATED CONTRIBUTIONS:										
State Wildlife Agency										
Federal Agencies										
Other										
Total Contributive Costs										

TABLE 10

Summary of Development Costs for Green Mountain

DATE	DESCRIPTION	AMOUNT	BALANCE
1917			
1918			
1919			
1920			
1921			
1922			
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1924			
1925			
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TABLE 1

Summary of Development of World's Population

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

State Wyoming  
District Rawlins  
Resource Area Great Divide RA  
Name of RMP Laramie Peak / FY Prepared

COST ITEM	Estimated Costs (\$000's) and Workmonths (W/M) by Development Year									
	Year 1		Year 2		Year 3		Year 4		Year 5	
	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000
ADMINISTRATION AND PREPARATION (Incl. Updating and Revision of RMP)										
IMPLEMENTATION:										
Project Survey and Design										
Project Work										
Public Affairs (Signs, Brochures, etc.)										
Support (Roads and Trails, Easements, Rights-of-Way, Building Construction, Access and Cadastral Survey).										
MAINTENANCE										
EVALUATION AND MONITORING (Incl. Pre/Post Treatment Studies)										
RESEARCH										
EQUIPMENT										
TOTAL BLM COSTS										
ESTIMATED CONTRIBUTIONS:										
State Wildlife Agency										
Federal Agencies										
Other										
Total Contributiva Costs										

TABLE 11

Summary of Development Costs for Britannia



10/10/10

10/10/10

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

State Wyoming  
District Rawlins  
Resource Area Great Divide RA  
Name of RMP Laramie Peak / FY Prepared

COST ITEM	Estimated Costs (\$000's) and Workmonths (W/M) by Development Year									
	Year 1		Year 2		Year 3		Year 4		Year 5	
	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000
ADMINISTRATION AND PREPARATION (Incl. Updating and Revision of RMP)										
IMPLEMENTATION:										
Project Survey and Design										
Project Work										
Public Affairs (Signs, Brochures, etc.)										
Support (Roads and Trails, Easements, Rights-of-Way, Building Construction, Access and Cadastral Survey).										
MAINTENANCE										
EVALUATION AND MONITORING (Incl. Pre/Post Treatment Studies)										
RESEARCH										
EQUIPMENT										
TOTAL BLM COSTS										
ESTIMATED CONTRIBUTIONS:										
State Wildlife Agency										
Federal Agencies										
Other										
Total Contributive Costs										

TABLE 12

Summary of Development Costs for Bear Head Mountain





UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

State Wyoming  
District Rawlins  
Resource Area Great Divide RA  
Name of RMP Laramie Fork / FY Prepared \_\_\_\_\_

COST ITEM	Estimated Costs (\$000's) and Workmonths (W/M) by Development Year									
	Year 1		Year 2		Year 3		Year 4		Year 5	
	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000
ADMINISTRATION AND PREPARATION (Incl. Updating and Revision of RMP)										
IMPLEMENTATION:										
Project Survey and Design										
Project Work										
Public Affairs (Signs, Brochures, etc.)										
Support (Roads and Trails, Easements, Rights-of-Way, Building Construction, Access and Cadastral Survey).										
MAINTENANCE										
EVALUATION AND MONITORING (Incl. Pre/Post Treatment Studies)										
RESEARCH										
EQUIPMENT										
TOTAL BLM COSTS										
ESTIMATED CONTRIBUTIONS:										
State Wildlife Agency										
Federal Agencies										
Other										
Total Contributive Costs										

TABLE 13

Summary of Development Costs for Bear Creek



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UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

State Wyoming  
District Rawlins  
Resource Area Great Divide RA  
Name of RMP Laramie Fork / FY Prepared         

COST ITEM	Estimated Costs (\$000's) and Workmonths (W/M) by Development Year									
	Year 1		Year 2		Year 3		Year 4		Year 5	
	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000
ADMINISTRATION AND PREPARATION (Incl. Updating and Revision of RMP)										
IMPLEMENTATION:										
Project Survey and Design										
Project Work										
Public Affairs (Signs, Brochures, etc.)										
Support (Roads and Trails, Easements, Rights-of-Way, Building Construction, Access and Cadastral Survey).										
MAINTENANCE										
EVALUATION AND MONITORING (Incl. Pre/Post Treatment Studies)										
RESEARCH										
EQUIPMENT										
TOTAL BLN COSTS										
ESTIMATED CONTRIBUTIONS:										
State Wildlife Agency										
Federal Agencies										
Other										
Total Contributive Costs										

TABLE 14

Summary of Development Costs for South Mountain





UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

State Wyoming  
District Rawlins  
Resource Area Great Divide RA  
Name of HMP Laramie Peak / FY Prepared

COST ITEM	Estimated Costs (\$000's) and Workmonths (W/M) by Development Year									
	Year 1		Year 2		Year 3		Year 4		Year 5	
	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000
ADMINISTRATION AND PREPARATION (Incl. Updating and Revision of HMP)										
IMPLEMENTATION:										
Project Survey and Design										
Project Work										
Public Affairs (Signs, Brochures, etc.)										
Support (Roads and Trails, Easements, Rights-of-Way, Building Construction, Access and Cadastral Survey).										
MAINTENANCE										
EVALUATION AND MONITORING (Incl. Pre/Post Treatment Studies)										
RESEARCH										
EQUIPMENT										
TOTAL BLM COSTS										
ESTIMATED CONTRIBUTIONS:										
State Wildlife Agency										
Federal Agencies										
Other										
Total Contributive Costs										

TABLE 15

Summary of Development Costs for Laramie Peak



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

State Wyoming  
District Rawlins  
Resource Area Great Divide RA  
Name of RMP Laramie Peak / FY Prepared

COST ITEM	Estimated Costs (\$000's) and Workmonths (W/M) by Development Year									
	Year 1		Year 2		Year 3		Year 4		Year 5	
	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000
ADMINISTRATION AND PREPARATION (Incl. Updating and Revision of RMP)										
IMPLEMENTATION:										
Project Survey and Design										
Project Work										
Public Affairs (Signs, Brochures, etc.)										
Support (Roads and Trails, Easements, Rights-of-Way, Building Construction, Access and Cadastral Survey).										
MAINTENANCE										
EVALUATION AND MONITORING (Incl. Pre/Post Treatment Studies)										
RESEARCH										
EQUIPMENT										
TOTAL BLN COSTS										
ESTIMATED CONTRIBUTIONS:										
State Wildlife Agency										
Federal Agencies										
Other										
Total Contributive Costs										

TABLE 16

Summary of Development Costs for Albany Peak



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

State Wyoming  
District Rawlins  
Resource Area Great Divide RA  
Name of RMP Laramie Fork / FY Prepared

COST ITEM	Estimated Costs (\$000's) and Workmonths (W/M) by Development Year									
	Year 1		Year 2		Year 3		Year 4		Year 5	
	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000
ADMINISTRATION AND PREPARATION (Incl. Updating and Revision of RMP)										
IMPLEMENTATION:										
Project Survey and Design										
Project Work										
Public Affairs (Signs, Brochures, etc.)										
Support (Roads and Trails, Easements, Rights-of-Way, Building Construction, Access and Cadastral Survey).										
MAINTENANCE										
EVALUATION AND MONITORING (Incl. Pre/Post Treatment Studies)										
RESEARCH										
EQUIPMENT										
TOTAL BLM COSTS										
ESTIMATED CONTRIBUTIONS:										
State Wildlife Agency										
Federal Agencies										
Other										
Total Contributive Costs										

TABLE 17

Summary of Development Costs for Lost Creek



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UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

State Wyoming  
District Rawlins  
Resource Area Great Divide RA  
Name of HMP Laramie Peak / FY Prepared

COST ITEM	Estimated Costs (\$000's) and Workmonths (W/M) by Development Year									
	Year 1		Year 2		Year 3		Year 4		Year 5	
	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000
ADMINISTRATION AND PREPARATION (Incl. Updating and Revision of HMP)										
IMPLEMENTATION:										
Project Survey and Design										
Project Work										
Public Affairs (Signs, Brochures, etc.)										
Support (Roads and Trails, Easements, Rights-of-Way, Building Construction, Access and Cadastral Survey).										
MAINTENANCE										
EVALUATION AND MONITORING (Incl. Pre/Post Treatment Studies)										
RESEARCH										
EQUIPMENT										
TOTAL BLM COSTS										
ESTIMATED CONTRIBUTIONS:										
State Wildlife Agency										
Federal Agencies										
Other										
Total Contributive Costs										

TABLE 18

Summary of Development Costs for Black Mountain



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

State Wyoming  
District Rawlins  
Resource Area Great Divide RA  
Name of HMP Laramie Fork / FY Prepared

COST ITEM	Estimated Costs (\$000's) and Workmonths (W/M) by Development Year									
	Year 1		Year 2		Year 3		Year 4		Year 5	
	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000
ADMINISTRATION AND PREPARATION (Incl. Updating and Revision of HMP)										
IMPLEMENTATION:										
Project Survey and Design										
Project Work										
Public Affairs (Signs, Brochures, etc.)										
Support (Roads and Trails, Easements, Rights-of-Way, Building Construction, Access and Cadastral Survey).										
MAINTENANCE										
EVALUATION AND MONITORING (Incl. Pre/Post Treatment Studies)										
RESEARCH										
EQUIPMENT										
TOTAL BLM COSTS										
ESTIMATED CONTRIBUTIONS:										
State Wildlife Agency										
Federal Agencies										
Other										
Total Contributive Costs										

TABLE 19

Summary of Development Costs for Rock Mountain

1. The first part of the paper is devoted to a general discussion of the problem. It is shown that the problem is of great importance for the theory of the structure of the atom.

2. The second part of the paper is devoted to a detailed analysis of the results obtained in the first part. It is shown that the results are in good agreement with the experimental data.

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UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

State Wyoming  
District Rawlins  
Resource Area Great Divide RA  
Name of RMP Laramie Peak / FY Prepared

COST ITEM	Estimated Costs (\$000's) and Workmonths (W/M) by Development Year							
	Year 1		Year 2		Year 3		Year 4	
	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000
ADMINISTRATION AND PREPARATION (Incl. Updating and Revision of RMP)								
IMPLEMENTATION:								
Project Survey and Design								
Project Work								
Public Affairs (Signs, Brochures, etc.)								
Support (Roads and Trails, Easements, Rights-of-Way, Building Construction, Access and Cadastral Survey).								
MAINTENANCE								
EVALUATION AND MONITORING (Incl. Pre/Post Treatment Studies)								
RESEARCH								
EQUIPMENT								
TOTAL BLM COSTS								
ESTIMATED CONTRIBUTIONS:								
State Wildlife Agency								
Federal Agencies								
Other								
Total Contributive Costs								

TABLE 20

Summary of Development Costs for Trethway

Date		Time		Location		Remarks	
1911	10/1	10:00	11:00	1000	1000	1000	1000
1911	10/2	10:00	11:00	1000	1000	1000	1000
1911	10/3	10:00	11:00	1000	1000	1000	1000
1911	10/4	10:00	11:00	1000	1000	1000	1000
1911	10/5	10:00	11:00	1000	1000	1000	1000
1911	10/6	10:00	11:00	1000	1000	1000	1000
1911	10/7	10:00	11:00	1000	1000	1000	1000
1911	10/8	10:00	11:00	1000	1000	1000	1000
1911	10/9	10:00	11:00	1000	1000	1000	1000
1911	10/10	10:00	11:00	1000	1000	1000	1000
1911	10/11	10:00	11:00	1000	1000	1000	1000
1911	10/12	10:00	11:00	1000	1000	1000	1000
1911	10/13	10:00	11:00	1000	1000	1000	1000
1911	10/14	10:00	11:00	1000	1000	1000	1000
1911	10/15	10:00	11:00	1000	1000	1000	1000
1911	10/16	10:00	11:00	1000	1000	1000	1000
1911	10/17	10:00	11:00	1000	1000	1000	1000
1911	10/18	10:00	11:00	1000	1000	1000	1000
1911	10/19	10:00	11:00	1000	1000	1000	1000
1911	10/20	10:00	11:00	1000	1000	1000	1000
1911	10/21	10:00	11:00	1000	1000	1000	1000
1911	10/22	10:00	11:00	1000	1000	1000	1000
1911	10/23	10:00	11:00	1000	1000	1000	1000
1911	10/24	10:00	11:00	1000	1000	1000	1000
1911	10/25	10:00	11:00	1000	1000	1000	1000
1911	10/26	10:00	11:00	1000	1000	1000	1000
1911	10/27	10:00	11:00	1000	1000	1000	1000
1911	10/28	10:00	11:00	1000	1000	1000	1000
1911	10/29	10:00	11:00	1000	1000	1000	1000
1911	10/30	10:00	11:00	1000	1000	1000	1000
1911	10/31	10:00	11:00	1000	1000	1000	1000

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

State Wyoming  
District Rawlins  
Resource Area Great Divide RA  
Name of HMP Laramie Fork / FY Prepared \_\_\_\_\_

COST ITEM	Estimated Costs (\$000's) and Workmonths (W/M) by Development Year									
	Year 1		Year 2		Year 3		Year 4		Year 5	
	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000	No. W/M	\$000
ADMINISTRATION AND PREPARATION (Incl. Updating and Revision of HMP)										
IMPLEMENTATION:										
Project Survey and Design										
Project Work										
Public Affairs (Signs, Brochures, etc.)										
Support (Roads and Trails, Easements, Rights-of-Way, Building Construction, Access and Cadastral Survey).										
MAINTENANCE										
EVALUATION AND MONITORING (Incl. Pre/Post Treatment Studies)										
RESEARCH										
EQUIPMENT										
TOTAL BLM COSTS										
ESTIMATED CONTRIBUTIONS:										
State Wildlife Agency										
Federal Agencies										
Other										
Total Contributive Costs										

TABLE 21

Summary of Development Costs for Sawtooth



.41 Concurrence and Approval

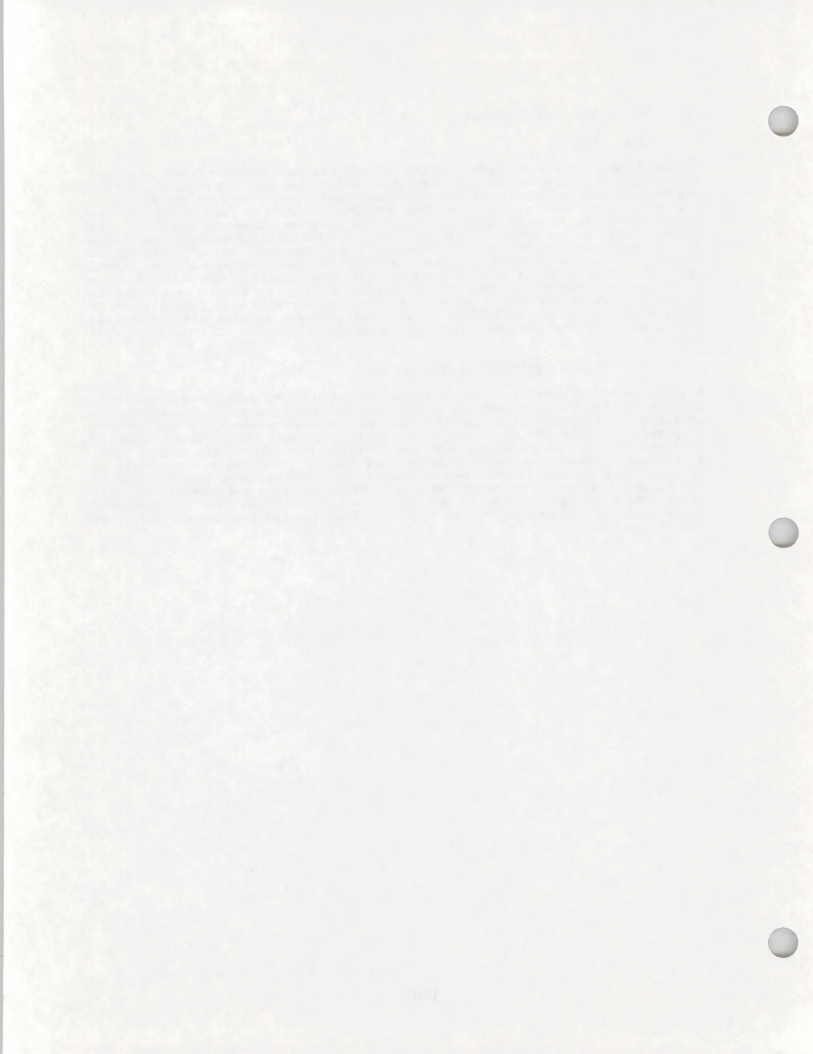
.41A BLM

The Rawlins District Manager and the Casper District Manager must sign and approve the Laramie Peak HMP upon completion and ensure that the requirements for the Great Divide Resource Area Resource Management Plan objectives and decisions are met. They also must ensure that the HMP statistics (see Table 22) are submitted to the Wyoming State Office, State Director after the plan has been implemented. At the option of the Wyoming State Director, a special memorandum of understanding with the Wyoming Game and Fish Department and the USFS can be prepared to specify responsibilities, cost sharing, maintenance, and other items. Upon completion of parts of or the entire plan, the required information must be listed on HMP Statistics Form 6780-3 (see Table 22). It should be noted that since this particular HMP is so vast in nature and size it will probably not be fully completed until 2009-2010. Individual progress reports and statistical summaries will be recorded for each site-specific area in Table 2 upon completion.

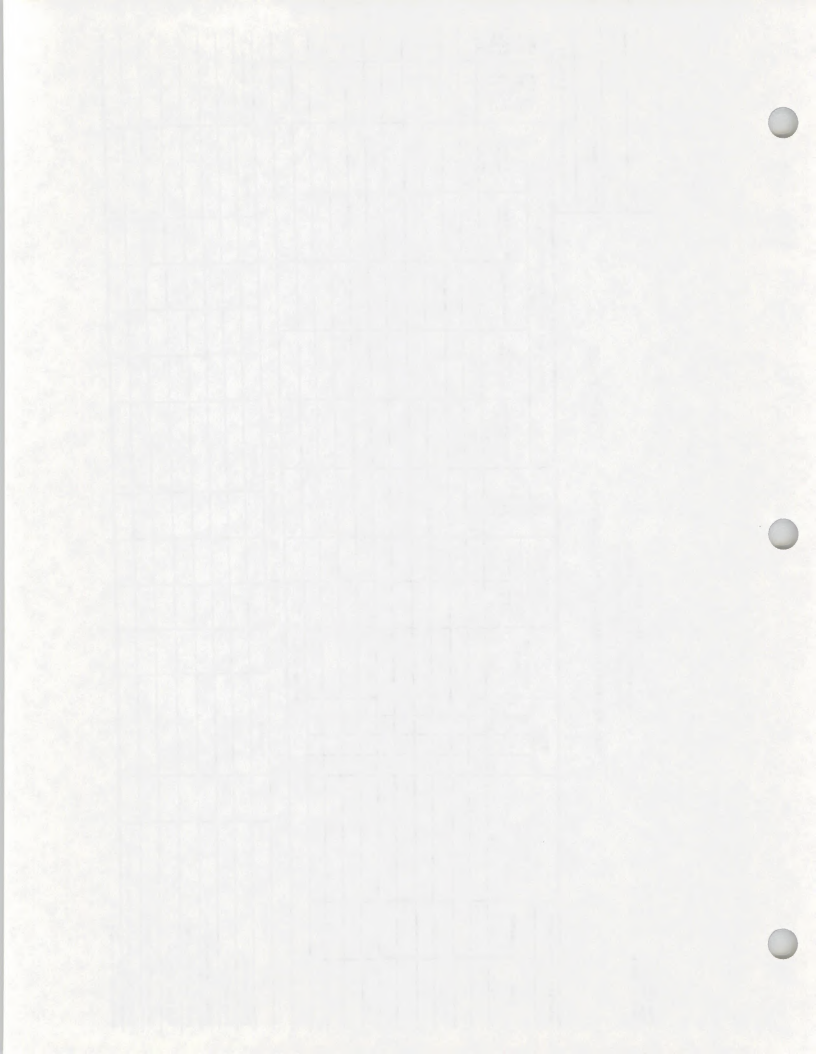
.41B State Agencies and Others

Signatures of the authorized Forest Supervisor of the U.S. Forest Service and the Director of the Wyoming Game and Fish Department (see Signature Pages) must be obtained to implement the Laramie Peak HMP and associated fifteen project proposals. This HMP is consistent with the BLM Master Memorandum of Understanding and is applicable with the Sikes Act Supplement (see .31D). Since there have already been approved and signed Sikes Act HMPs within the state of Wyoming, this particular HMP (as a subsequent HMP) may be approved and signed by the BLM Rawlins District Manager and local authorized State and Federal Officials (e.g. WGFD and USFS). A copy of the HMP for which funds have been requested for implementation may be sent to the Director (240) for information and backup to AWP preparation.



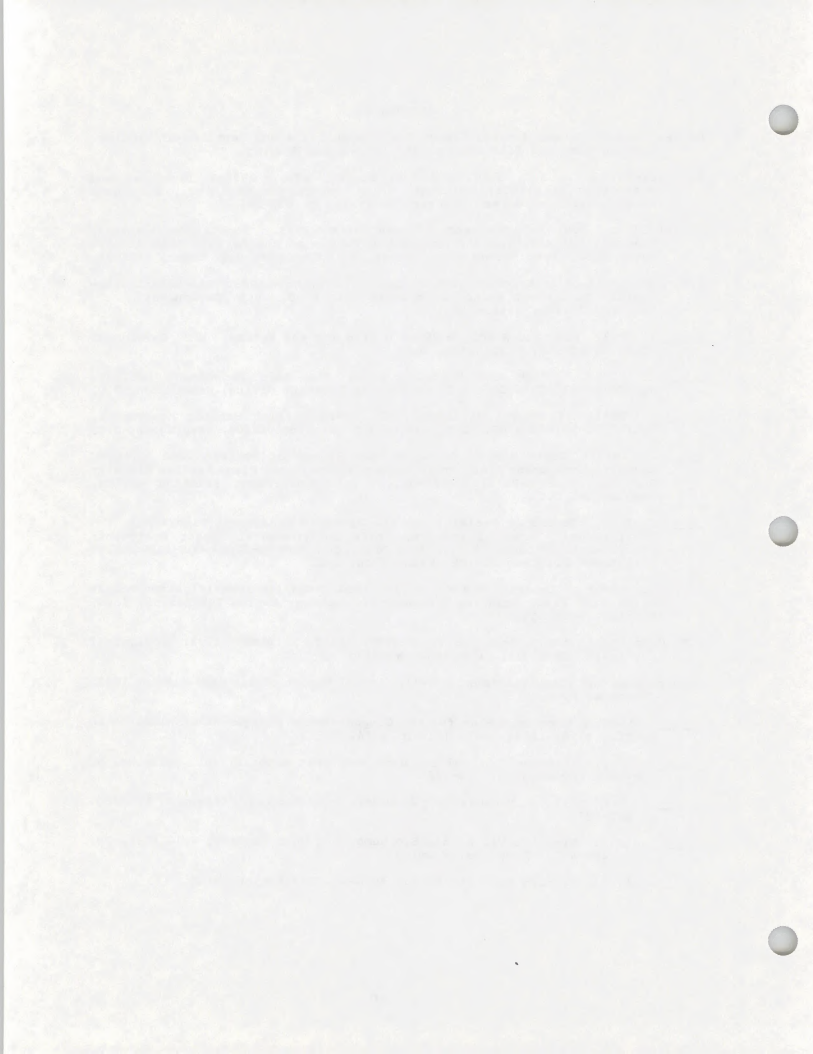






## REFERENCES

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- \_\_\_\_\_. 1985. Record of Decision for the Resource Management Plan/Final Environmental Impact Statement, Draft Environmental Impact Statement: Platte River Resource Area, Casper District. BLM-WY-PT-84-008-4410. U.S. Government Printing Office, Washington, D.C.
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- \_\_\_\_\_. 1993. District V Annual Big Game Herd Unit Reports. Cheyenne, Wyoming. p. 500-522.
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# **APPENDIX I**

**Public Comments, Letters, Discussions  
Relevant to the Laramie Peak HMP**

# APPENDIX I

THE UNIVERSITY OF CHICAGO  
LIBRARY

July 1, 1994

mR 7-94  
TR 7-1-94

Foundation for North American Wild Sheep  
Ron Ball, President  
P.O. Box 5000  
Big Piney, Wyoming 83113

Dear Mr. Ball:

The prescribed burn (Environmental Assessment WY-037-EAO-038, BLM) scheduled for the Split Rock area for the Laramie Peak bighorn sheep has been extremely difficult to execute this field season due to the relatively strict windows involved. This burn is located in the south and central portions of T. 24 N., R. 71 W., Section 31 and T. 24 N., R. 72 W., Sections 25 and 36. A map depicting the estimated burn units, felled-timber cuts and 1974 Duck Creek Wildfire has been attached. The proposed action is to prescribe burn sagebrush/grass in the spring and felled timber in the fall within a 400 acre perimeter area as soon as the windows open.

At this time, to mitigate habitat conditions of enclosed corridors that the sheep attempt to utilize as transportation routes from lambing/nursery grounds to forage areas, a plan has been composed to fell timber manually by the BLM fire crews in July, August or September of this field season. Approximately 400 trees were felled in the summer of 1993 by the BLM fire crews. A three (3) person crew can begin the project one week and another three (3) person crew can continue the following week. The project will involve personnel from the BLM and the Wyoming Game and Fish Department (WGFD) to analyze the best areas to cut for the wildlife. At this point in time the crews are logistically prepared to complete the timber cutting project, however, they are fire personnel and any fire that they are called for will take precedence throughout the fire season. Since there have been numerous fires to date, and it probably will continue to be a busy fire season, a September cut is probably more realistic.

The BLM and the WGFD are requesting approximately \$1,500.00 - \$2,000.00 to pay for per diem and supplies used in the cutting treatments if conditions arise this field season. Is it possible to obtain these funds from those previously set aside for this Split Rock prescribed burn? If so, the funds can remain in place until the project has been completed.

Please feel free to contact Mary Read, Wildlife Biologist at this office at 307-324-4841 if this can be achieved. Again, the crews are prepared to complete this project, barring funding and a "break" in the fire conditions throughout the west and south western portions of the U.S.

Sincerely,

/S/ CHARLES E REED

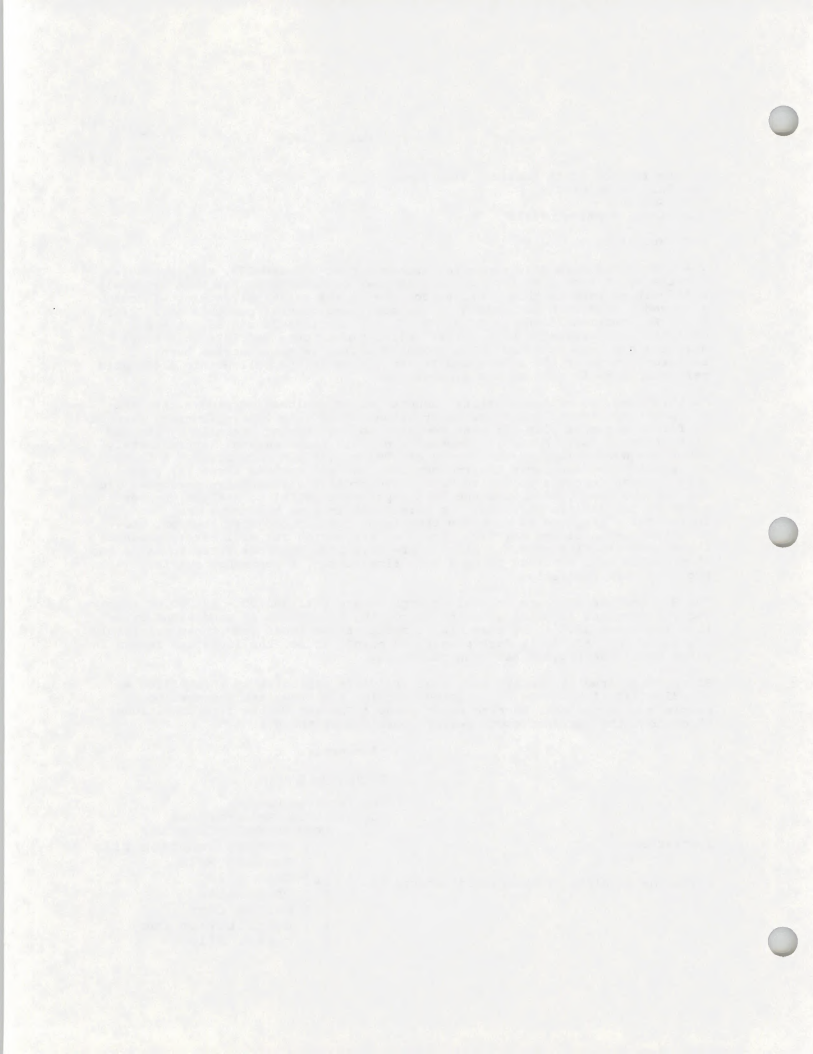
Acting Area Manager  
Great Divide Resource Area

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1 Attachment:  
1 - Map

MJREAD:gs:07/01/94 \common\wild\fundreq.fna



BLW 2-7-94  
TR 02-07-93  
6700  
MR  
2-7-93

Requesting \$ for fire crew cut

February 7, 1994

Foundation for North American Wild Sheep (FNAWS)  
Freddie Goetz  
1555 Spruce Street  
Wheatland, Wyoming 82201

Dear Mr. Goetz:

Attached please find copies of both the "Fire Crew Project Work Request Form" and map, as well as the signed (1993) Prescribed Burn Plan for the Split Rock Prescribed Burn. The actions entailed in the Environmental Assessment (EA) for the Split Rock prescribed burn include burning sagebrush/grass areas within the 400 perimeter area in the spring of 1993 and felled timber within the ecosystem in the fall of 1993. The primary objective of this burn is to improve habitat conditions for the Duck Creek subherd of the Laramie Peak bighorn sheep herd in the Laramie Peak Wildlife Habitat area, 25 miles west of Wheatland (R. 72 W., T. 24 N., Sec. 25 and 36; R. 71 W., T. 24 N., Sec. 31).

The "windows" for this burn, or permitable conditions under which the BLM staff members are able to burn, are extremely 'tight' and somewhat restricting due to the particular topography. BLM professionals at both the Great Divide Resource Area (GDRA) and Rawlins District Office (RDO) have been monitoring conditions for an open window since the signature of both the EA and burn plan. To mitigate this condition and to alleviate forage quality and quantity conditions on the mountains for the bighorn sheep, the Wildlife Biologist, Mary Read, has suggested the following: 1) a timber sale harvesting dead/down beetle-killed trees north of the EA parameter (Pine Mountain) and 2) a 4-section cut utilizing the BLM fire crew, south to south-west of Split Rock. An EA for both the timber harvest and fire crew cutting is presently being analyzed and written at this time.

At this time the GDRA is requesting a partial use of the FNAWS funds, originally earmarked for the burn, to be utilized for the fire crew cut. An estimated \$2,500.00 - \$3,000.00 will be required for supplies, mileage, and per diem for the crew to complete the task. Attached please refer to the map for the specific cut areas.

Again, the interdisciplinary team is making an 'all-out' concerted effort to complete this burn, but must adhere to the restricted 'windows' within the approved burn plan. If there are any questions please, contact Mary Read, Wildlife Biologist, at 307-324-4841.

Sincerely,

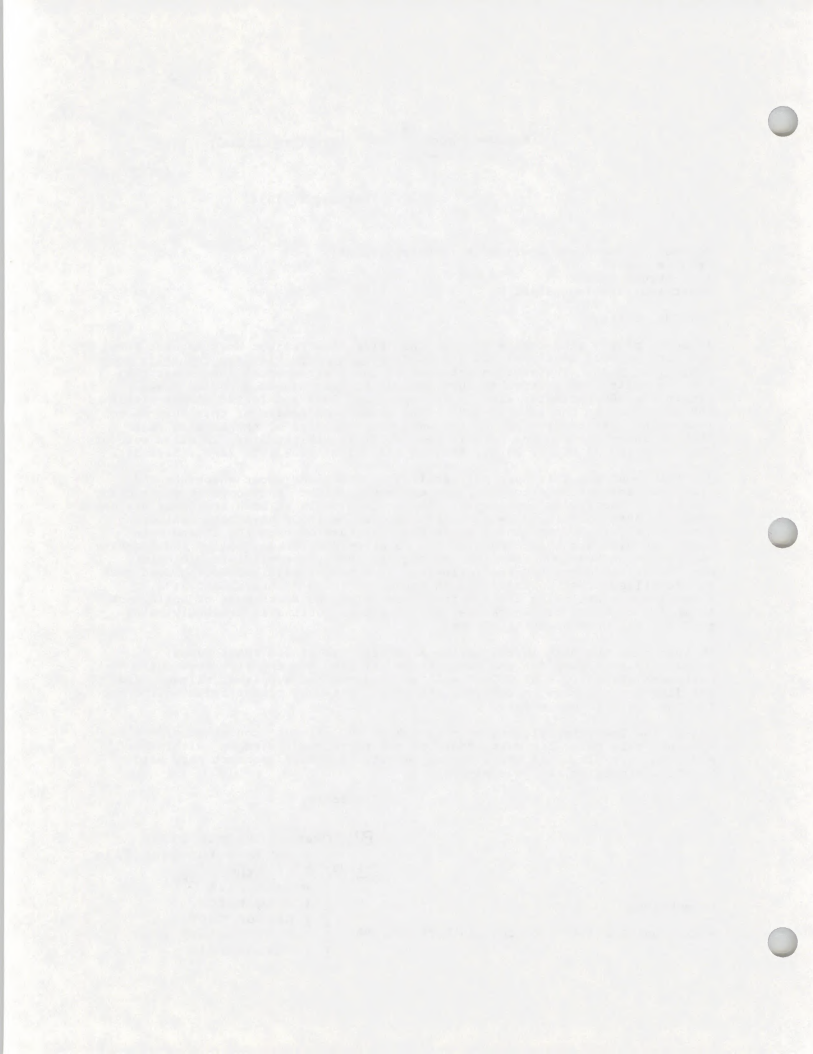
BILL WATERS  
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Great Divide Resource Area  
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[ ] Chron. File

Attachments

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SPLIT ROCK BURN PUBLIC ANNOUNCEMENT LIST  
(Personal letter)

Jerry Martin Kennedy  
Henry Martin  
Gary Wayne  
Dodge Ranch  
Rock River, Wyoming 82083

George Portwood, Foreman  
True Ranches  
P. O. Drawer 2360  
Casper, Wyoming 82602

Frank Schmeyer  
P. O. Box 904  
Wheatland, Wyoming 82201

William L. Sturgeon  
Garrett, Wyoming 82058

Winona E. Spencer  
P. O. Box 936  
Montrose, Colorado 81402

James C. Benton  
706 38th Avenue  
Myrtle Beach, South Carolina 29577

UVA Ranch  
360 East Laramie River Road  
Wheatland, Wyoming 82201

Cindy Kohler  
P.O. Box 702  
Wheatland, Wyoming 82201

Glen W. Hall  
Lazy 69 Ranch  
Wheatland, Wyoming 82201

Leo G. Norris  
Route 1  
Box 4447  
Wheatland, Wyoming 82201

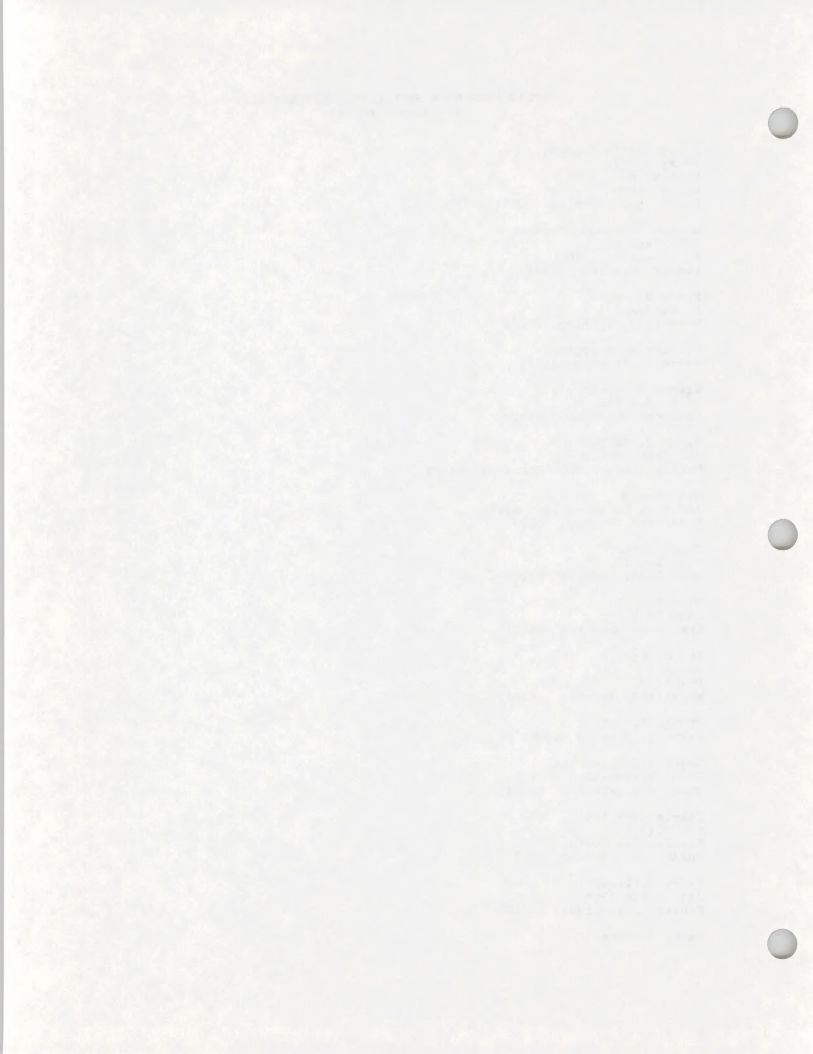
CU Ranch, Inc.  
Garrett, Wyoming 82058

Leroy and Helen Rutz  
70 Riverview Road  
Wheatland, Wyoming 82201

Charles Mcauley  
Box 9219  
Harris Park Route  
Wheatland, Wyoming 82201

Larry Sullivan  
3325 North 79th  
Kansas City, Kansas 66109

Perry Andrews



9152 Amherst Drive, #C  
Denver, Colorado 80231

Artery Brothers, Inc.  
801 9th Street  
Wheatland, Wyoming 82201

Roy M. Hitt  
Route 1  
Box 4273  
Wheatland, Wyoming 82201

Donald E. Fish  
1504 Lakeside Avenue  
Fort Collins, Colorado 80521

Noel Hall  
Box 37  
Rock River, Wyoming 82083

Vale Ranch LDT  
Rock River, Wyoming 82083

Frank J. Jones  
P. O. Box 369  
Wheatland, Wyoming 82201

William H. Morrison  
P. O. Box 686  
Laramie, Wyoming 82070

William F. Pate  
P. O. Box 458  
Georgetown, South Carolina 29442

Marcelline A. Shefford  
10 Ayers Road  
Wheatland, Wyoming 82201

Joseph Bookout  
243 East Oak Street  
Wheatland, Wyoming 82201

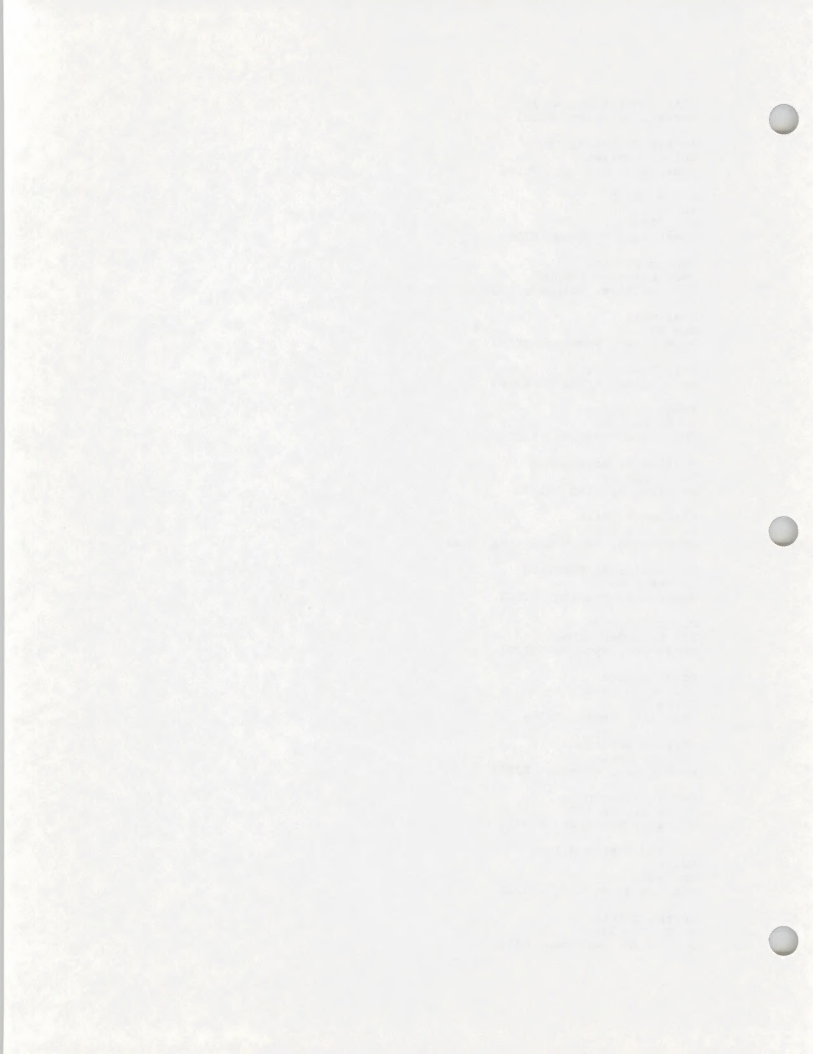
Donna Johnke  
5601 I-40 West  
Suite 350  
Amarillo, Texas 79106

William Goodrich  
Garrett Route  
Rock River, Wyoming 82083

Perry Scranton  
Route 1, Box 158  
Wolbach, Nebraska 68882

Tim and Sheila Mylet  
Route 1  
Box 4693  
Wheatland, Wyoming 82201

Bertha Schutt  
P. O. Box 214  
Stapleton, Nebraska 69163





Gerald Miller  
P. O. Box 782  
Wheatland, Wyoming 82201

Dean Price  
5 Sunset Drive  
Wheatland, Wyoming 82201

Platte County Commissioners  
Platte County Courthouse  
Wheatland, Wyoming 82201

Doris Foster  
Star Route  
Box 15  
Freer, Texas 78357

Eugene J. Alloway  
1634 Jim Bridger  
Casper, Wyoming 82601

Ethel Higgs  
Rural Route 1  
Box 276  
Blanco, Texas 78606

Hagemeister Ranches, Inc.  
644 Hams Park Road  
Wheatland, Wyoming 82201

Larry Fertig  
49'er Bar  
Wheatland, Wyoming 82201

Gregory Schmidt  
Palmer Canyon Road  
Wheatland, Wyoming 82201

Landen Family Trust  
P. O. Box 485  
Wheatland, Wyoming 82201

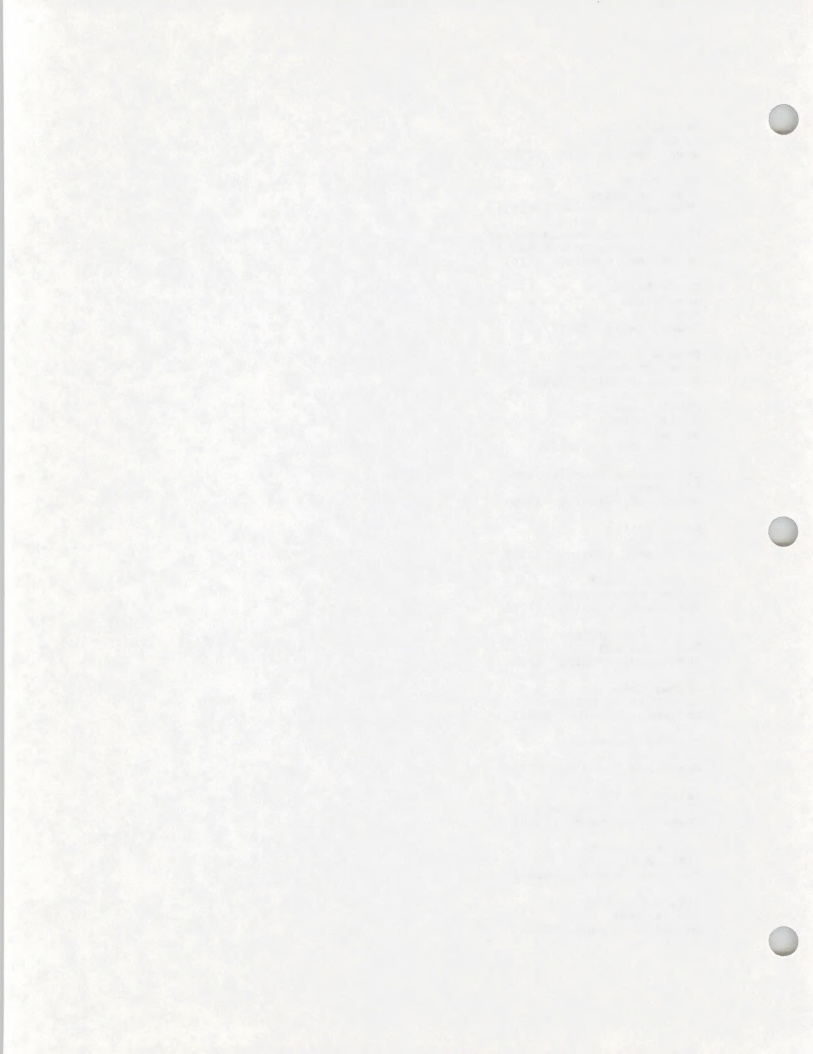
Esther Otto  
5245 Fishing Bridge  
Cheyenne, Wyoming 82009

Charles Shelbert  
P. O. Box 522  
Wheatland, Wyoming 82201

Dale A. Kjack  
310 West 4th Avenue  
Cheyenne, Wyoming 82001

A. Lyn Stephens  
2823 Reed Avenue  
Cheyenne, Wyoming 82001

Maxine Hathaway  
190 Jackson  
Umatella, Oregon 97882



Palmer Canyon Company  
1209 11th  
Wheatland, Wyoming 82201

Robert Kittrell  
2255 West 22nd Street  
Wheatland, Wyoming 82201

Split Rock Land and Cattle  
P. O. Drawer 189  
Wheatland, Wyoming 82201

Albany County Commissioners  
Albany County Courthouse  
Laramie, Wyoming 82070

Joel W. Jackson  
19053 East 22nd Drive  
Aurora, Colorado 80011-5263

True Ranch Company  
P. O. Box 2360  
Casper, Wyoming 82602

Friends of the Bow  
P. O. Box 6032  
Laramie, Wyoming 82070

Wyoming Outdoor Council  
Barbara Parsons, President  
319 W. Larsen  
Rawlins, Wyoming 82301

Wyoming Wildlife Federation  
June Rain  
P. O. Box 106  
Cheyenne, Wyoming 82003

Alvin Wiedersphonst  
3905 Bent Avenue  
Cheyenne, Wyoming 82001

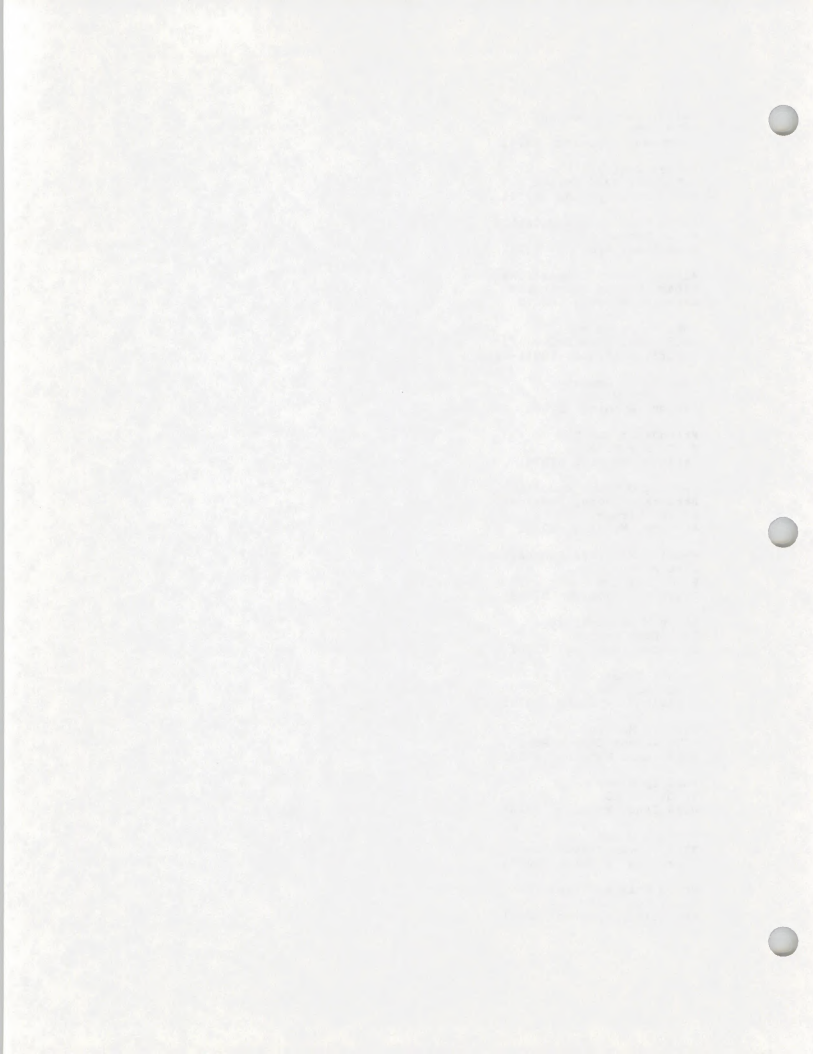
Israel Roter  
P. O. Box 233  
Wheatland, Wyoming 82201

Bernard McGuire  
4398 Palmer Canyon Road  
Wheatland, Wyoming 82201

Phillip Rietz  
P. O. Box 23  
Wheatland, Wyoming 82201

Willard Woods  
3754 Palmer Canyon Road  
Wheatland, Wyoming 82201

Notch Peak Ranches, Inc.  
P. O. Box 522  
Wheatland, Wyoming 82201



Michael and Laura Nemec  
Exploration Association  
23202 Rosewood Trail  
Tomball, Texas 77375

George Portwood  
True Ranches  
872 Cottonwood Park Road  
Wheatland, Wyoming 82201

Clay Thompson  
1740 State Highway 230  
Laramie, Wyoming 82070

Ernie Kittell  
178 Kittell Road  
Wheatland, Wyoming 82201

Pete Johnson  
156 South Gap Road  
Wheatland, Wyoming 82201

John F. and Virginia M. White  
Wheatland, Wyoming 82201

Warren & Mildred Hall Stuckey  
900 Circle Drive  
Wheatland, Wyoming 82201

David L. Berry  
323 Happy Jack Road  
Cheyenne, Wyoming 82007

John F. & Virginia M. White  
Wheatland, Wyoming 82201

Michael H. Sarvey  
922 South Center St.  
Casper, Wyoming 82601

Michael & Lisa Bookout  
Box 335  
Wheatland, Wyoming 82201

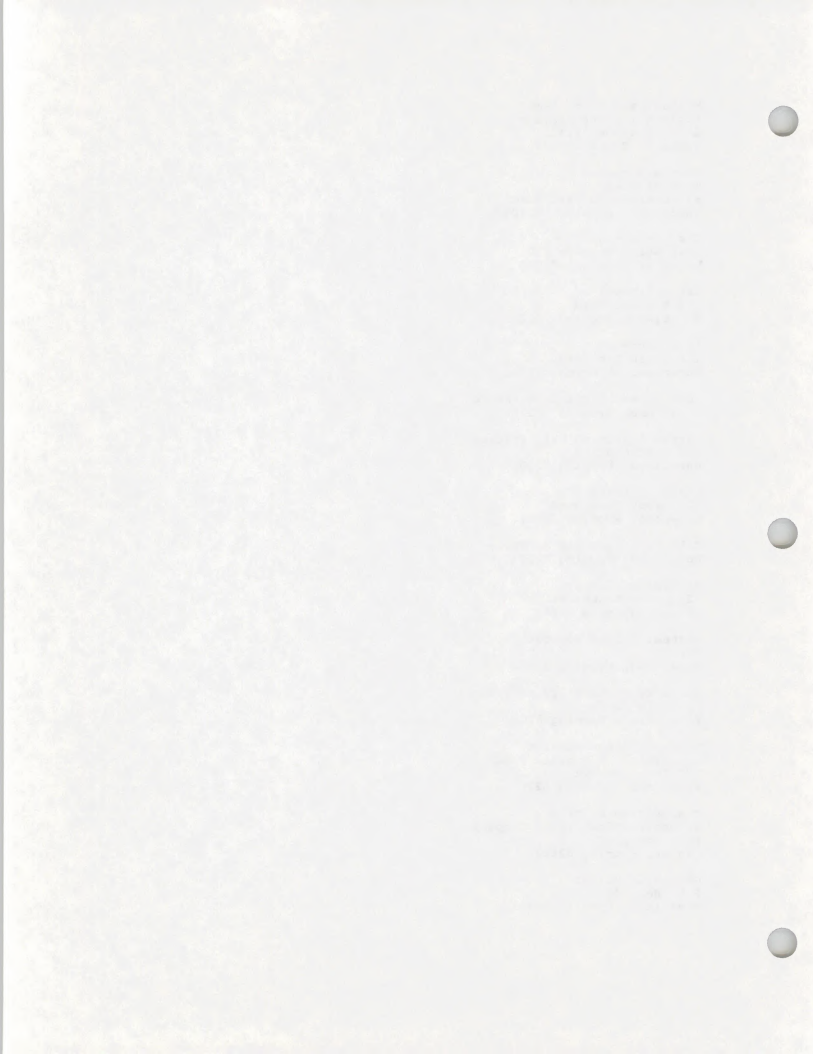
James E. & Rietz Irvine Francel  
c/o Vale Ranch  
Rock River, Wyoming 82083

Thomas & Donna McGuire  
c/o Willard & Cynthia Woods  
203 13th. Street  
Wheatland, Wyoming 82201

H.A. & Jean D. True  
Splash 2 Splash Ranch Company  
P.O. Box 2360  
Casper, Wyoming 82602

Gerald L. Miller  
P.O. Box 782  
Wheatland, Wyoming 82201





Verne E. Smith  
Box 3231  
University Station  
Laramie, Wyoming 82071

Robert C. & Scott David Kittrell  
P.O. Box 995  
Jeffersonville. Indiana 47130

Kenneth E., Jr. & Janet C. Locks  
822 Montclair Drive  
Cheyenne, Wyoming 82001

Julius Galligar  
1857 Highway 34  
Wheatland, Wyoming 82083

Ned & Patty Killough Galligar  
1052 Mason  
Wheatland, Wyoming 82201

Bernhard-Nussbaumer Lina  
P.O. Box 1115  
Wheatland, Wyoming 82201

William Earl Bookout  
1200 South Hightower  
Wheatland, Wyoming 82201

Joseph L. & Pauline Bookout  
243 East Oak Street  
Wheatland, Wyoming 82201

Split Rock, Inc.  
c/o D.N. Sherard, Attorney at Law  
P.O. Box 69  
Wheatland, Wyoming 82201

Robert & Bonnie K. Sorensen  
P.O. Box 11  
Wheatland, Wyoming 82201

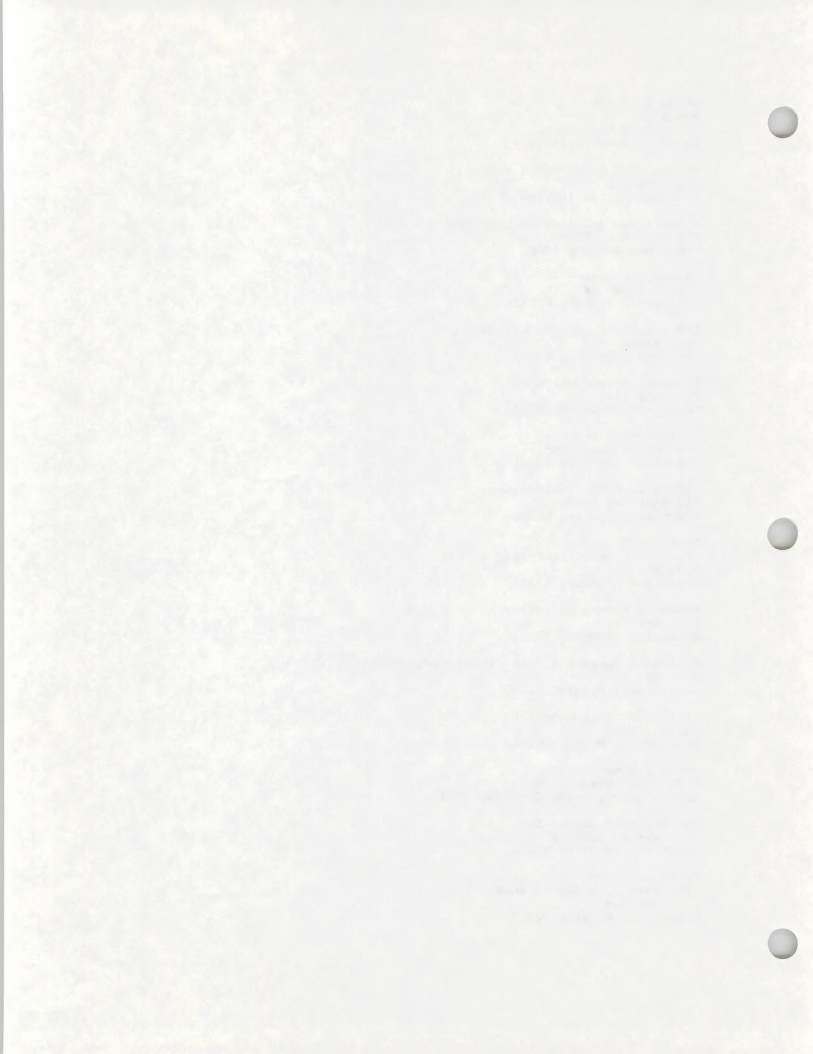
Neal Hall Company & John Flake, Margaret Hall  
P.O. Box 37  
Rock River, Wyoming 82083

William & Viola Goodrich  
Garrett Road  
Rock River, Wyoming 82083

Donna & Elmer Johnke  
6001 South Kings Highway  
Myrtle Beach, South Carolina 29575

Lee Mountain Ranch, Inc.  
c/o Raymond Hunkins  
Wheatland, Wyoming 82201

Frank J. Jones  
c/o Frank J. & Waeaver Jones, P.S.  
P.O. Box 369  
Wheatland, Wyoming 82201



January 12, 1993

Vale Ranch  
c/o William Kennedy  
Garrett Route  
Rock River, Wyoming 82083

Dear Mr. Kennedy:

The Bureau of Land Management and the Wyoming Game and Fish Department are planning a prescribed burn to improve wildlife habitat, with an emphasis on bighorn sheep, in the Laramie Peak Wildlife Habitat Area, located about 25 miles west of Wheatland. The controlled burns are planned for the spring/fall of 1993 when conditions are suitable for burning.

As stated above, the purpose for the burns is to improve habitat quality adjacent to cliffs and other areas used by a diversity of wildlife, as well as bighorn sheep. The spring burn will allow for a controlled burn of sagebrush/grass that permits regrowth of desirable forage plants. The fall burn plan concentrates on the prescribed burning of previously felled beetle-killed ponderosa pines to further improve the quality and quantity of wildlife habitat in the Laramie Peak Wildlife Habitat Area.

An environmental analysis, in compliance with the National Environmental Policy Act of 1970, has been conducted in 1991. This letter is to inform you, as an adjacent landowner of the prescribed burn, that the Bureau of Land Management and Wyoming Game and Fish Department, in a joint effort, will be conducting a public information meeting on February 20, 1993, 10:00 A.M. - 12:00 P.M. at the Platte County Public Library in Wheatland, Wyoming. This meeting is designed to answer any questions and/or address any comments pertaining to this particular prescribed burn.

visit { Mary Read, Wildlife Biologist, Larry Trapp, Fire Management Officer, and Dick Larson, Soil Scientist/Prescribed Burn Boss would like to meet with you concerning this particular prescribed burn at your convenience. If you have any questions, please contact Mary Read at Great Divide Resource Area office (307) 324-4841.

Sincerely,  
/s/ Jim H. Webb

ACTING

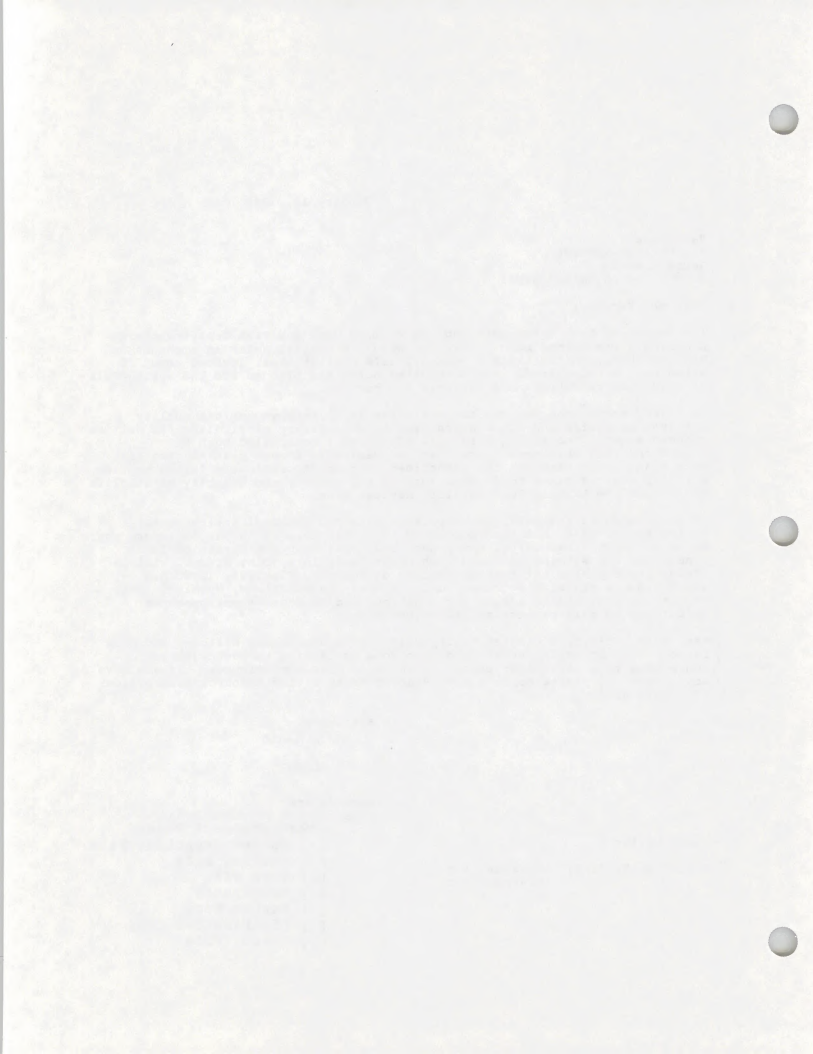
Area Manager  
Great Divide Resource Area

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## NEWS RELEASE



### WYOMING GAME AND FISH DEPARTMENT

Contact: Rich Guenzel (307) 745-4046

January 22, 1993

Mary Read, BLM Wildlife Biologist, (307) 324-4841

#### PREScribed BURNS PLANNED TO IMPROVE BIGHORN SHEEP HABITAT

The Bureau of Land Management and the Wyoming Game and Fish Department are planning prescribed burns, in the spring and fall of 1993, to improve bighorn sheep habitat on the Laramie Peak Wildlife Habitat Area, about 25 miles west of Wheatland.

The burns were recommended by a study of the Laramie Peak bighorn sheep herd as a way to improve habitat. The burns will cover about 400 acres of steep public lands adjacent to cliffs used by the animals. The burning of old growth sagebrush this spring will promote the regrowth and nutritional quality of grasses that provide valuable forage, especially for ewes and lambs. The fall burn is designed to open up passage routes for the sheep.

"Last year we went in and cut down beetle-killed ponderosa pines in the area," said Bob Gurney, G&F habitat supervisor for southeast Wyoming. "Dropping these trees, in combination with burning this area in the fall, will open up travel lanes for the sheep between the cliffs and forage areas. We're very hopeful this project will significantly improve the bighorn sheep habitat on the Laramie Peak unit."

(more)

PREScribed BURNS PLANNED TO IMPROVE BIGHORN SHEEP HABITAT  
page 2

An informational public meeting about the burns will be held by the G&F and BLM in Wheatland, Feb. 20, 10:00 a.m. to 12:00 p.m. at the Wheatland Public Library. The public is invited to attend to learn about the project and offer their views.

"This project is an outstanding example of how the BLM, affected landowners and grazing permittees, numerous public agencies, conservation organizations and private citizens can cooperate together for the benefit of wildlife," said Al Pierson, Rawlins district manager for BLM. "By pooling our talents and resources we are able to get much more accomplished toward reaching a common goal."

Prescribed burning is a frequently used habitat management tool used to control certain types of vegetation and to promote the growth of grasses to improve forage for wildlife and livestock. In North America, the technique was first used by several Native American tribes. Prescribed burns are not conducted until weather and moisture conditions are suitable, and adequate manpower and equipment are in place to confine the fire to a predetermined area.

The Laramie Peak prescribed burns are supported by the Foundation for North American Wild Sheep; Southeast Wyoming Resource and Conservation Development District; Myron J. Wakkuri, who donated the proceeds from a guided hunt to the project; BLM; G&F; U.S. Forest Service and Laramie Rivers Conservation District.

For more information about the project contact Rich Guenzel,

(more)

PREScribed BURNS PLANNED TO IMPROVE BIGHORN SHEEP HABITAT  
page 3

G&F game biologist at 1-800-843-2353 or Mary Read, BLM wildlife biologist at 324-4841.

G-F



5400

July 19, 1991 <sup>1991 7-14-91</sup> ~~7-17-91~~

Myron J. Wakkuri  
 Project Coordinator  
 USDA SC3  
 1302-B 9th Street  
 Wheatland, Wyoming 82201

Dear Mr. Wakkuri:

Enclosed please find the information you requested concerning cost, time frame and location for the pre-burn timber cutting project at Split Rock. The cutting would take place on BLM land, T. 24 N., R. 71 W., Sec. 31, and would total approximately 27 acres. The roundish northern-most cut is approximately 14 acres and the long southern-most cut is approximately 13 acres.

The southern cut unit has a higher tree density than the northern unit. Using stand density data we estimate an average of 50 trees/acre for the two stands.

The estimated cost of the project:

1 tree reeler:	\$11.00/hour
1 man can cut:	4 trees/hour
\$/tree:	\$2.75/tree
with added expense, estimate: \$5.00/tree	

therefore \$5.00/tree x 50 trees/acre x 27 acres = \$6750.00

Time frame for project:

50 trees/acre x 27 acres = 137.5 hours for 1 man  
 4 trees/hour


The project will go to contract if BLM handles it and will therefore be bid on. Considering the rough terrain and difficult access, we may not get a bid as low as \$6750.00.

If BLM handles the contract, we require a 15% administrative overhead fee, which would bring the estimate of \$6750.00 to \$7762.50. The Wyoming Game and Fish Department may be willing to handle the contract thereby eliminating the overhead fee.



We appreciate your interest in this project. If you have any questions, please contact Deborah Foelker at (307) 324-4841.

Sincerely,

  
Area Manager  
Great Divide Resource Area

Dfoelker:gjr:7/18/91:0421k

6700

5/24/71

May 24, 1971

Myron Wakkuri  
Project Coordinator  
USDA SCS  
1502 - S 5th Street  
Wheatland, WY 82201

Dear Mr. Wakkuri:

Enclosed please find a copy of the BSAWS Grant Proposal for the Split Rock prescribed burn in the Laramie Peak/Duck Creek area.

Deboran Roelker has done some checking and hasn't gotten very favorable feedback on the timber cutting proposal. It will be impossible to use summer temporaries which means a contract would be required. Our forester estimated a cost of several hundred dollars per acre for a contractor to get the job done.

Despite the opposition, Deboran still believes it would be worth while to cut out some of the areas of prime concern, particularly those few acres near the peak of Split Rock if not the full 20 acres of interest.

We greatly appreciate your participation in the Laramie Peak Bighorn Sheep committee meeting on Monday the 20th of May, and the interest you've taken in this project. If you have any questions please contact Deboran Roelker at (307) 324-4041.

Sincerely,

Area Manager  
Great Divide Resource Area

DPW:KLEK:odc:07-24-71:0457d

0300

July 18, 1991

Mr. Robert Gurney  
Wyoming Game and Fish Department  
P.O. Box 96  
Toder, Wyoming 82244

Dear Bob:

I wasn't able to find the actual breakdown of estimated dollars/flying time or helicopter fuel expenses, however this is a gross breakdown of the estimated project cost.


The foundation for North American Wild Sheep (FNAWS) has accepted our proposal and has allocated \$7150.00 to this project. Myron Wakkuri of the USDA SGS plans to request up to \$6000.00 - \$10000.00 for the preburn timber cutting expense.

Estimated cost of Burn = 24,650.00

	WCFD	FNAWS	BLM/WCFD/USFS Cooperators
Subsistence (personnel and per diem):			14,000.00
Travel expenses:			500.00
helicopter and fuel	3000.00	7150.00	
Totals:	3000.00	7150.00	14,500.00 = 24,650.00

I hope these figures will be of help to you.

Sincerely,

  
Deborah Foelker

# Foundation for North American Wild Sheep

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Karen Werbelow  
Business Administrator

May 13, 1991

Deborah Poelker  
BLM  
P.O. Box 670  
Rawlins, WY 82301

Dear Deborah,

On behalf of the Foundation for North American Wild Sheep and the Wyoming Chapter of FNAWS, I would like to congratulate you on the acceptance of your project 91-54 titled "Split Rock Prescribed Burn". The Wyoming Chapter of FNAWS has taken a special interest in this project and has agreed to fund it through their chapter. Kathy M. Gay, Wyoming FNAWS Secretary and Treasurer, will be your contact for disbursement of funds. She can be reached at 307-856-4968 or 11809 Hwy 26-789, Shoshoni, WY 82649.

Of the \$7150.00 requested, \$7150.00 has been allocated to this project. Per our conversation, Deborah, this money has been allocated contingent on: That the money be deposited in the Range Improvement Fund and that there are no administrative fees associated with this project. FNAWS and its chapters are adamant that we are not charged with administrative fees now or in the future. According to this project's Grant application, the \$7150.00 was expensed to helicopter. We would expect that if this project did not use all of these funds, that only the amount needed would be requested, or returned to WY FNAWS as the case may be.

We are extremely proud and excited to be working in a partnership with the Bureau of Land Management. We are a non-profit organization with a completely volunteer board. Our Board of Directors have a "hands on" philosophy to these projects and physically get involved whenever possible. They are responsible for master-minding our conventions which this year alone funded over \$600,000.00 in projects and returned permit money, totaling over 5 million dollars to date in conservation projects. Surely you can understand why administrative costs are not an option.

If I can be of further assistance, please do not hesitate to contact me. Kathy Gay will be receiving correspondence and will be in touch with you.

Sincerely,

*Marti Nielsen*

Marti Nielsen  
GIA Coordinator

Marti A. Nielsen  
Grant-in-Aid Coordinator



Foundation for North American Wild Sheep

FNAWS Headquarters  
720 Allen Avenue  
Cody, WY 82414

(307) 527-6261  
FAX (307) 527-7117

NON-PROFIT ORGANIZATION

May 29, 1991

## Memorandum

To: State Director, Wyoming (950)  
 Attn: Kris Rust

From: Acting District Manager, Rawlins

Subject: Request for Waiver of Administrative Surcharge

We request the State Director recommend waiver of administrative surcharge on our "Fish Wyoming" grant from the Wyoming Game and Fish Department (WGYD). The grant is for a fisheries project titled "Teton Reservoir Boat Ramp and Jetty." The WGYD is sharing \$13,090 toward the cost of this project and has stipulated that we do not expend any contributed funds on administrative costs. We question whether an 18 percent administrative surcharge is appropriate for Challenge Cost Share projects. The WGYD feels that administrative surcharge is an inappropriate expenditure of money specifically designated for on-the-ground fish and wildlife management projects.

Is there another fund account other than 7122 that we could use legitimately to avoid administrative surcharge? Could a blanket waiver for Challenge Cost Share contributed funds be requested? We have another cost share project coming up involving bighorn sheep. The Foundation for North American Wild Sheep has tentatively approved this project. It is also the policy of the Foundation that contributed monies will not be used to fund administrative costs. We are forwarding a letter to that effect (attachment 1) and will send another request for waiver of administrative surcharge.

Find attached forms 1380-11 and 1380-11a. If you have any questions, please contact Fred Stabler at this office at FTS 328-3361. Please let us know when the State Director has made a recommendation on this request for waiver and a final decision is made by the Service Center. We need to make plans for the summer field season.

/s/ Bud Hoffbrook

## 3 Attachments:

- Atch. 1 - Letter dated May 13, 1991
- Atch. 2 - Form 1380-11
- Atch. 3 - Form 1380-11a

cc: Mark Gorges, WFO (932)  
 Jack Welch, LRA

Debra Poelker, GDRA  
 Phyllis Foster, Admin.

FSTABLERinr15-29-9110401r



## EXCEPTION INDIRECT COST RATE - TRUST FUND PROJECT REQUEST FORM

To: Service Center Director (SC-615)

From:

Subject: Exception Indirect Cost Rate - Trust Fund Project

Please establish the following Trust Fund project, which has been authorized an indirect cost rate other than the annual prevailing rate, in the Federal Financial System.

SUBACTIVITY:  
(PROGRAM)☒7122 - RESOURCE DEVELOPMENT, PROTECTION AND  
MANAGEMENT (FLEMA)☐7123 - RESOURCE DEVELOPMENT, PROTECTION AND  
MANAGEMENT (CALIF. OHV FUND)

PROJECT NUMBER:

EXCEPTION INDIRECT COST RATE: 0 0 2ORGANIZATION CODE  
OF LEAD OFFICE:W Y 0 3 0

This form is to be attached to the Trust Fund Project Number Assignment And Information Data Form 1380-11. Forward to Service Center (SC-615) after Approving Official has completed for input into the Federal Financial System.

NAME OF APPROVING OFFICIAL (Please Type): \_\_\_\_\_

SIGNATURE OF APPROVING OFFICIAL: \_\_\_\_\_

TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_

TRUST FUND PROJECT NUMBER  
ASSIGNMENT AND INFORMATION DATA FORM

- SUBACTIVITY: ☐ 7110 - CONVEYANCE OF OMITTED LANDS  
☐ 7121 - RESOURCE DEVELOPMENT, PROTECTION, AND MANAGEMENT (TAYLOR GRAZING ACT)  
☒ 7122 - RESOURCE DEVELOPMENT, PROTECTION AND MANAGEMENT (FLPMA)  
☐ 7123 - RESOURCE DEVELOPMENT, PROTECTION AND MANAGEMENT (CALIF. OHV FUND)  
☐ 7130 - PUBLIC SURVEY  
☐ 7300 - TRUSTEE FUNDS (ALASKA TOWNSITES ONLY)

PROJECT NUMBER: \_\_\_\_\_ CASE FILE NUMBER: \_\_\_\_\_

PROJECT NAME: \_\_\_\_\_ Teton Reservoir Boat Ramp and Jetty

APPLICANT (VENDOR) NAME: \_\_\_\_\_ John Baughman

ADDRESS: \_\_\_\_\_ Wyoming Game and Fish Department

\_\_\_\_\_ 5400 Bishop Blvd.

\_\_\_\_\_ Cheyenne, WY 82006

TELEPHONE NUMBER: \_\_\_\_\_ 777-4559

ORGANIZATION CODE  
OF LEAD OFFICE: \_\_\_\_\_ W Y 0 3 0

ORGANIZATION CODE OF  
OTHER OFFICES CHARGING  
TO THE PROJECT: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

EXCEPTION INDIRECT COST  
RATE (7122 AND 7123): \_\_\_\_\_ 0 2

PROJECT MANAGER NAME  
AND TELEPHONE NUMBER: \_\_\_\_\_ Fred Stabler, FTS 328-3361

FOR SERVICE CENTER USE ONLY

VENDOR NUMBER: \_\_\_\_\_

AGREEMENT NUMBER: \_\_\_\_\_

RA DOCUMENT NUMBER: \_\_\_\_\_

INPUT BY: \_\_\_\_\_

DATE: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

**PROJECT TITLE:** Split Rock Prescribed Burn Unit

**LOCATION:** Hibbard County, N.D. 58441, NW 1/4, Sec. 11, T22N, R10E, S22E, Attachment I.

**DESCRIPTION OF PROJECT:** To cut approximately 27 acres of beetle killed ponderosa pine. The trees will be burned at the time of the Split Rock prescribed burn (see Attachment II for proposal submitted to Foundation for North American Wild Beasts). The Wyoming Game and Fish Department (WYGF) and the Wyoming Cooperative Fishery and Wildlife Research Unit will provide a five man team to perform the cutting at no cost. However, due to the absence of roads into the area and the extremely rugged terrain the crew will be airlifted from the south side of Duck Creek to the flats near Split Rock.

**NEED FOR PROPOSED PROJECT:** One serious problem, identified, facing the big horn sheep of the Laramie Peak area is the encroachment of ponderosa pine into historical sheep habitat. Pine stands reduce habitat quality by reducing foraging areas and by creating an impediment to the sheep, particularly when trees divide escape terrain and foraging areas, as is the case on Split Rock Mountain. The trees on Split Rock have been beetle killed and due to rugged terrain are not salvable by harvesting.

Beetle killed trees may begin to fall after five years, depending upon wind, moisture, soil and topography conditions. Once the beetle killed trees have fallen they will create an even greater hindrance to the sheep, on the ground than standing trees. The trees on Split Rock have been standing dead for three years and longer and some have already fallen.

If these trees are not removed, the likelihood of an uncontrollable wildfire is greatly increased by the high fuel load. By removing the trees visibility for foraging sheep will be increased, thus reducing the time and energy spent in a state of alert. It has been shown that sheep feed more efficiently in the absence of trees (Doug McWhirter, Masters Thesis).

The burn area will be closely monitored for change in sheep use and vegetative quality. Vegetative monitoring cages have already been distributed throughout the proposed burn area, having been slung by helicopter in September 1991 into this remote and rugged area.

The eminent question remains, how to remove the trees:

- 1) to gain the greatest benefit from the burn
- 2) before they fall and create a greater hindrance to the sheep
- 3) to reduce the possibility of future wildfire
- 4) since harvesting the trees is economically and possibly physically infeasible.

To cut and burn beetle killed trees in inaccessible areas to benefit bighorn sheep, has never been attempted before in this part

of Wyoming, if at all. In the area incorporated by the Laramie River big horn sheep herd there are vast acres of beetle killed trees inaccessible to harvesting, which are hindering the sheep. If this project proves successful this method of tree removal may become widely used as a management tool for improving big horn sheep habitat in beetle kill areas.

COST: The projected cost for a helicopter to airlift the crew to cutting site will total : \$6985.00 (see below for cost breakdown).

Monies and personnel already committed for the burn amount to approximately \$24,000.00, by the Foundation for North American Wild Sheep (FNAWS), the Wyoming Game and Fish Department (WGFDP), the Bureau of Land Management (BLM), and the US Forest Service (USFS).

COST BREAKDOWN:

Helicopter cost:

Helicopter cost/hr= \$440.00

\$440.00 x 4hrs ferry time roundtrip=	\$1760.00
\$440.00 x 2hrs/day x 5 days of work=	\$4400.00
Subtotal=	\$6160.00

Fuel truck cost:

fuel truck cost/mi= \$0.50

\$0.50 x 450 mi round trip =	\$225.00
------------------------------	----------

Per diem cost:

per diem for one person/night= \$20.00

\$20.00/night x 2 (driver & pilot) x 5 nights=	\$600.00
--	----------

TOTAL COST FOR HELICOPTER OPERATION = \$6985.00



BURN:

**PERSONNEL & PER DIEM:**

To blackline and burn: 15 people x \$12.00/hr x 10 hrs/day x 5 days= \$9000.00  
per diem: 15 people x \$30.00 x 5 days= \$2250.00  
Holding force/postburn: 2 people x \$12.00/hr x 10 hrs/day x 2 days= \$480.00  
per diem: 2 people x 30.00/day x 2 days= \$120.00  
Travel expense: \$450.00  
-----  
SUB-TOTAL \$12,300.00

**HELICOPTER:**

WGFD:  
Helicopter \$1375.00  
Helitorch fuel \$800.00  
Fuel truck \$225.00  
Per diem pilot & truck driver \$600.00  
-----  
SUB-TOTAL \$3000.00

FNAWS:  
Helicopter SUB-TOTAL \$7150.00

**TOTAL FOR BURN= \$22,450**

**TIMBER CUT:**

Helicopter: (breakdown in proposal) SUB-TOTAL \$6985.00  
  
Personnel (WGFD): 5 people x \$12.00 x 10 hrs/day x 5 days: \$3000.00  
Per diem: 5 people x 30.00/day x 5 days: \$750.00  
-----  
SUB-TOTAL 3750.00

**TOTAL FOR TIMBER CUT= \$10,735.00**

-----  
**GRAND TOTAL FOR PROJECT= \$33,185.00**



COST BREAKDOWN PER AGENCY:

BURN:

WGFD:

Helicopter, fuel...	\$3000.00
personnel & per diem (5 people for 5 days):	\$3750.00
Travel expense:	\$150.00

-----  
SUB-TOTAL      \$6900.00

USFS:

personnel & per diem ( 1 person for 5 days):	\$750.00
--	----------

BLM:

Personnel & per diem- burn (9 people for 5 days):	\$6750.00
Personnel & per diem- Holding force (2 people for 2 days):	\$600.00
Travel expense:	\$300.00

-----  
SUB-TOTAL      \$7650.00

FNAWS:

Helicopter:	\$7150.00
-------------	-----------

-----  
TOTAL COST FOR BURN= \$22,450.00

TIMBER CUT:

WGFD:

Personnel & per diem:	\$3750.00
-----------------------	-----------

SCS Proposal:

Helicopter:	\$6985.00
-------------	-----------

-----  
TOTAL COST FOR TIMBER CUT= 10,735.00

TOTAL COST FOR TIMBER CUT & BURN PER AGENCY:

WGFD:	\$10,650.00
USFS:	\$750.00
BLM:	\$7650.00
FNAWS:	\$7150.00
SCS Proposal:	\$6985.00

-----  
GRAND TOTAL FOR PROJECT= \$33,185.00

# Fire Management and Wildlife

*Prescribed burning can be an effective management tool for improvement of wildlife habitat. Farm and ranch owners in the state of Wyoming can improve habitat for wildlife, and increase forage for domestic livestock by including prescribed burning in land management planning.*

A prescribed fire is quite different from a "wildfire." Wildfires are unplanned and can be destructive, while prescribed burns are carefully planned to maximize benefits and minimize the chance of uncontrolled burning.

This bulletin describes the steps to complete a prescribed burn, expected results, and the effects on certain wildlife species.

Prescribed fire is traditionally associated with management of public forest lands. However, a great deal of fire management can be implemented on private lands where sagebrush communities predominate. Much of the 94 million acres of sagebrush habitat in the West can be improved for wildlife and livestock. Since sagebrush communities are so widespread in

*Fire starting with a drip torch.*



**Habitat Extension Services**



# First Manuscript

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Section VIII

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Section X

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Section XL



Mule deer (left) and other big game thrive on grass, shrubs, and aspen rejuvenated by fire. A controlled burn (next page) improves forage in the year following the fire (below).

Wyoming and burning of these areas is relatively common, they are discussed throughout this bulletin.

All sagebrush is not created equal: there are several subspecies, many of which occur in Wyoming. Common examples include Wyoming big sage, bud sage, black sage, and silver sage. These subspecies occur at elevations ranging from 2,000 to 10,000 feet and differ enough that unique fire prescription plans are needed for each type.

### Planning Prescribed Burns

Before burning is conducted, or perhaps even considered as an option, the landowner should evaluate the condition of his or her property. Prescribed burning is one of many tools useful for range improvement; it is not a cure-all. While some range problems can be solved using prescribed burns, many others can not. There are three sound management reasons to burn areas:

**Over-utilization** is a nice word for overgrazing. Overgrazing normally leads to a loss of grasses and forbs, after which plant species such as big sagebrush become the dominant plants in the area. In certain cases, lands that have been abused in this manner can be rejuvenated through burning.

**Under-utilization** is not common but can be a problem, particularly in grasslands. Periodic burning of prairie communities was a natural cyclic occurrence in years past. Fire suppression in these areas combined with little or no grazing can lead to under-utilization. Bunch grasses (those species which colonize areas through root stocks rather than rhizomes) can become decadent, with old growth choking out new, eventually impeding plant growth. Prescribed burning can remove dead growth, return nutrients to the soil, and stimulate plant root systems to produce new growth only days after a fire passes.

Finally, **succession** is a sound reason for prescribed burning. In areas where fire has been suppressed, many undesirable species of

grasses, shrubs, and in some cases, trees, may invade the area, reducing preferred forage quality and availability. Prescribed burning provides a way to reduce these invading plants and encourage establishment of more desirable forage plants.

After reviewing the range condition and determining that a prescribed burn can achieve the desired improvements, the landowner should formulate a **fire use plan**. This plan consists of the following components:

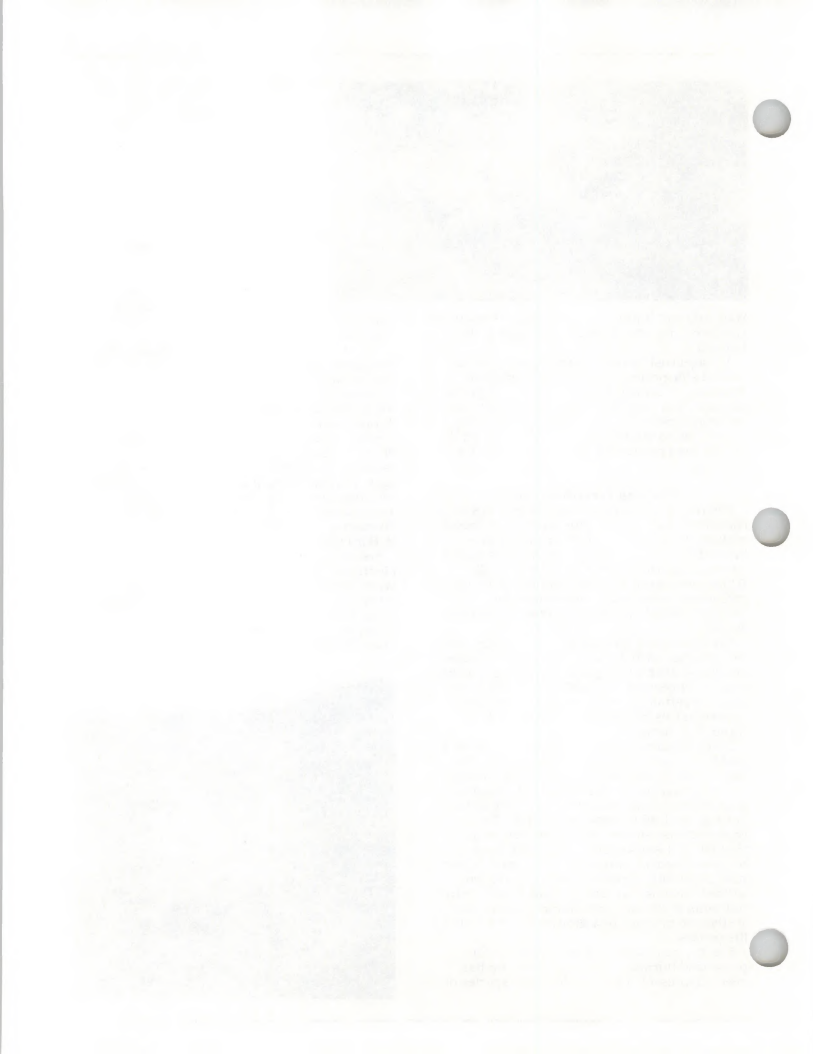
#### 1. Burn Area

First, the burn area borders must be clearly defined. This will help later when fire breaks are established. Rather than burning large acreages, plan on burning smaller sections within the larger area on a yearly rotational system. This rotational burning will maintain habitat diversity and benefit a variety of wildlife species.

#### 2. Burn Objectives

Secondly, burn objectives must be clearly identified. What is the purpose of the burn? What effect(s) is/are desired? When should the burn be conducted (season, time of day, number of days)? Variables of a prescribed burn can be manipulated so a landowner can achieve the exact desired results.







### 3. Burn Prescription

Thirdly, a fire prescription must be developed to reach the established objectives. The prescription is comprised of a number of components which result in a fire that accomplishes these established objectives. For example, a fire that burns too hot may destroy preferred vegetation or sub-surface tissue of preferred plants, or it may jump fire breaks and become uncontrolled. A fire that burns too cool may not spread adequately throughout the burn area, resulting in incomplete combustion of fire fuels, spot burning, and failure of the burn objectives.

One of the major prescription components is the time of year for burning to obtain desired results. From a wildlife standpoint, this decision can be critical. Ground nesting birds, including sage grouse, can be severely impacted if burns are conducted between April and August. To prevent wildlife impacts and still provide other benefits, early spring or fall are the best times to conduct a prescribed burn.

Deciding when to burn is partially dependent upon burn objectives and the plants indigenous to the site. Burns should be conducted when preferred plants are dormant. Warm season grasses such as buffalo grass and blue grama benefit from a spring burn, while they are still

dormant. Cool season grasses such as blue-bunch wheatgrass, Idaho fescue, western wheatgrass, and prairie junegrass benefit from a fall burn following their growing season. In general, forbs are negatively impacted by spring burns and benefitted by fall burns, particularly those forbs which grow from root stocks.

Examining each burn season reveals other considerations.

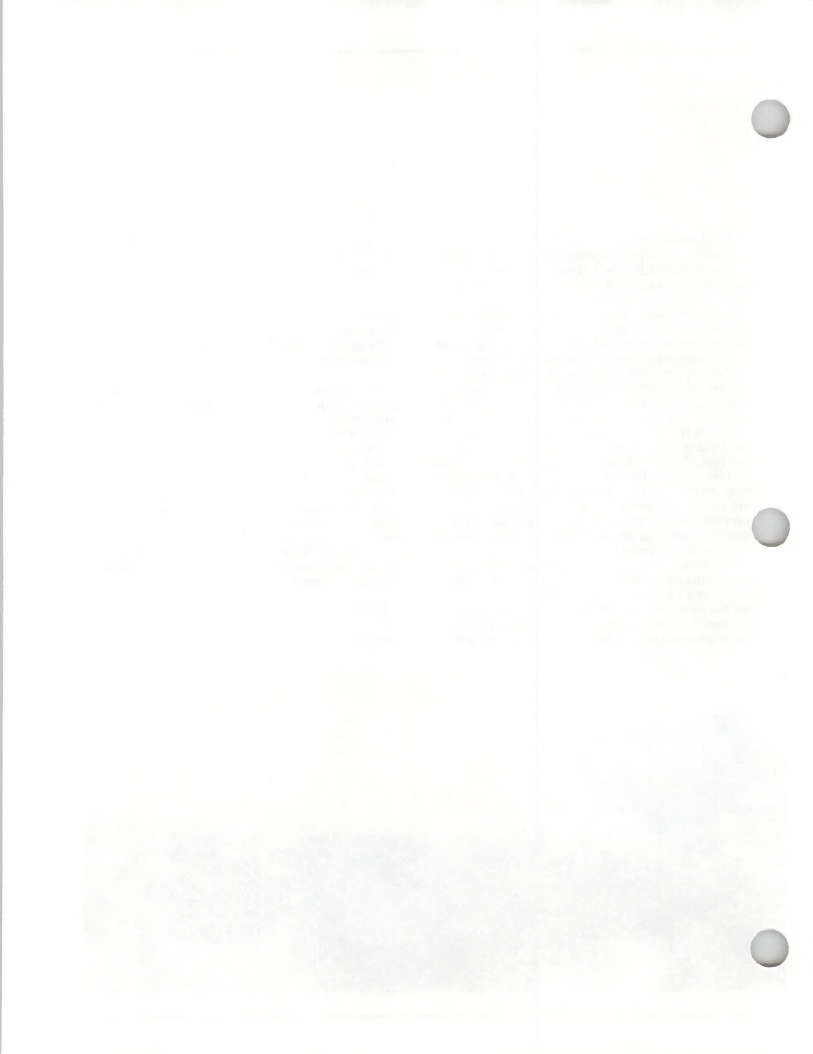
#### *Spring burns*

Fuel moisture is relatively high during this period, resulting in a cooler burn that still kills sagebrush. Cooler fires are easier to control and much less likely to leap fire lines. Snow banks can be used for firebreaks to reduce firebreak construction efforts and associated burning costs. Spring burns allow regrowth during the summer growing season. This may be important, for example, on a big game winter range where vegetative regrowth will provide critical forage for big game during the coming winter. However, in spring, fuel moisture content may be too high to successfully carry a fire, producing incomplete and spot burning.

#### *Fall burns*

In the fall, fuel moisture content is typically low enough to achieve burn objectives, and weather conditions are usually favorable for





*Fire in old stands of willow (center and next page) or sagebrush (bottom) stimulates new growth and improves forage value. A wildflower sprouts in the aftermath of a ground fire in Yellowstone (left).*



prescribed burning.

Typically, fall burns are more effective in eliminating big sagebrush. Since big sagebrush drops its seeds in late fall, early fall burning removes both mature plants and their seeds. This helps to prevent quick re-establishment of sagebrush the following spring and allows desirable forage plants to colonize the burn area. Grasses and bitterbrush, often associated with big sage communities, drop their seeds in early

summer, thereby avoiding detrimental effects from fall burning. Burned areas provide a superb environment for these seeds to germinate and establish themselves.

On the negative side, fall burns may require more firebreaks, and the hotter, drier conditions of a fall burn increase the risk of fire leaping a firebreak or spotting to other areas. Despite these potential drawbacks, fall burns are recommended for big sagebrush stands.





#### **4. Burning Plan**

The last component of a fire use plan is the burning plan. This is the actual "blueprint" of the planned fire and includes the following components:

##### ***Fuel Treatments***

In certain cases, sparse fuels may have to be more evenly distributed or augmented in the burn area to obtain the desired results. However, fuel may be limited in some areas and excessive in others. Fuel may need to be more evenly distributed to avoid very hot burns or blowups that might result in fire escaping.

##### ***Fire Lines***

Fire lines, whether natural or constructed, should completely encompass the treatment area. In most cases, fire lines 10 feet wide will contain a fire, but there are exceptions to this rule. For instance, the downwind fire break may need to be 50 feet or more wide to prevent a prescribed burn from escaping.

#### **Prescribed Burning Effects**

What effects can a land manager expect from a successful burn, and how does this benefit wildlife? One of the most visible effects of a prescribed fire is a decrease in canopy cover of timber and large shrubs such as sagebrush. This allows more sunlight to reach the ground, stimulating growth of desirable grasses and forbs.

Soil temperatures tend to be higher on burned areas and become snow-free sooner in spring as the exposed, blackened soil is warmed by the sun. The added nutrient availability produced by burned vegetative material encourages seed

germination sooner than other areas. Vegetation from burned areas has a higher palatability and nutritional content that is very attractive to livestock and big game alike. Increased nutrient flow and increased soil moisture also result from a prescribed burn.

Burned areas should be rested from domestic livestock grazing for at least two years. This allows desirable plants to become fully established, while minimizing colonization of weedy species. If this rest period is not observed, the likelihood of sagebrush re-invasion is high, with reduced benefits of burning. Prescribed fire affects wildlife in different ways. Some of

these effects are listed below:

#### **Small mammals**

Most small mammals are initially adversely affected by fire. Populations of small mammal species as well as the number of species (diversity) of small mammals in a burn area will be initially reduced. Burrowing animals often escape the flames and heat from all but the hottest fires by remaining underground during fire passage. Most small mammals are killed indirectly from cover and food reduction in the burned area. For example, small mammals foraging in a burned area become easy targets for predators such as hawks and owls. As vegetation regenerates however, small mammals from nearby locations will re-colonize the burned area.

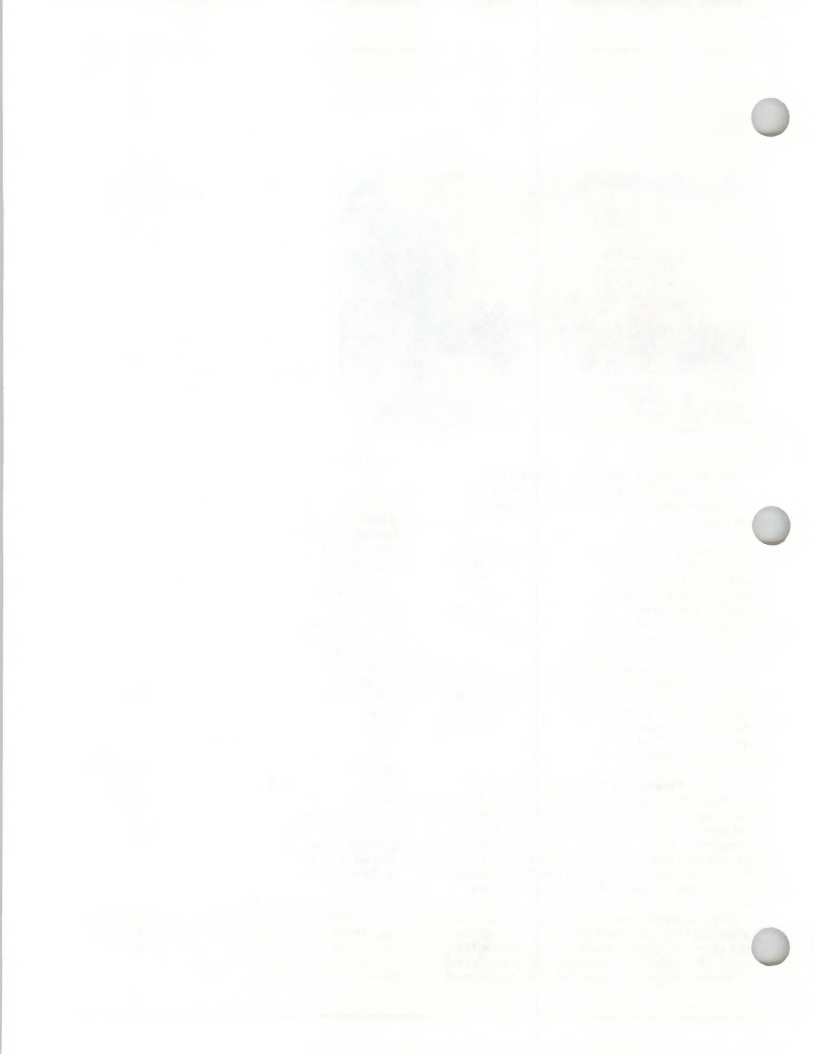
#### **Bird Species**

Areas known to support nesting birds should not be burned until fall to avoid loss of nesting cover. This allows nesting birds to use the available cover and successfully raise broods. In the spring following a burn, adequate residual nesting cover may be lacking. To accommodate ground nesting birds in this situation, burns should be relatively small to maintain a portion of the area in nesting cover at all times.

#### **Pronghorn Antelope**

Few studies have been conducted regarding fire effects on pronghorn antelope and their range. Although antelope feed on a combination of grasses, forbs, and browse, they prefer forbs particularly in spring and summer. They rely





heavily on sagebrush during the winter months, so anything done to promote forb production while at the same time preserving 30 to 50 percent of the original shrub cover present will be beneficial to antelope.

### Mule Deer

Mule deer, like most big game species, will readily utilize burned areas, especially after green-up. Deer are attracted to newly developing, succulent shoots and young sprouts on the burn area. Studies indicate that the higher nutritional value of these plants will be maintained for 1 to 3 years post-burn. After that period, forage nutrient levels will decline until they reach a level that existed prior to the burn. At that point, the area may need to be burned again.

Studies also show that increased forage quality of burned areas leads to healthier, larger animals, and in the case of does, higher ovulation rates and higher birth rates. A critical consideration for deer is to avoid burning all cover in an area. This can be accomplished by burning smaller areas (up to 60 acres) to leave nearby cover for deer or preserve localized patches of cover within a burned area. In either case, 40 percent or more of the original shrub cover should remain to optimize deer numbers.

### Elk

Elk feed on a combination of grasses, forbs, and browse. Prescriptions that promote regeneration of these plants will likely benefit elk. Prescribed burning studies of elk habitat indicate that fall burns have the best long-term effects for elk herds. If a fall burn is correctly done, maximum use by elk will occur after 7 years.

One favorite food item of elk normally promoted by fire is aspen. Aspen trees regenerate by producing shoots from the parent tree. This process, called "suckering," is often stimulated by fire, resulting in an upsurge of aspen shoots and increased forage for elk.

One other beneficial effect of fire in elk habitat is a resultant decrease in browse height. Not only is regenerated browse easier for elk to reach, but the succulence and nutritional value of browse are increased, resulting in healthier animals.

### Conclusions

The process of prescribed burning is far more involved than simply setting fire to an area. It involves considering a number of interrelated variables to meet specific management objectives. The process, because of its complexity and associated danger, demands that only experts conduct such activities.

For more information about prescribed burning and possible treatment of your lands, consult one or more of the following persons: your local Agricultural Extension agent, the Soil Conservation Service, the Wyoming Game and Fish Department's fire management supervisor or habitat personnel, and the U.S. Forest Service fire management supervisor in your area.

For further reading on the subject of prescribed burning, please consult the following references:

Chandler, Craig, Phillip Cheney, Philip Thomas, Louis Trabaud, and Dave Williams. 1983. *Fire in forestry*. John Wiley and Sons, New York, NY. 450 pp.

Pyne, Stephen J., 1982. *Fire in America, a cultural history of wildland and rural fire*. Princeton University Press, Princeton, NJ. 654 pp.

Pyne, Stephen J., 1984. *Introduction to wildland fire, fire management in the United States*. John Wiley and Sons, New York, NY. 455 pp.

\*Smith, Michael A., Jerrold L. Dodd, and J. Daniel Rodgers. 1985. *Prescribed burning on Wyoming rangeland*. Agricultural Extension Service bulletin B-810.

Wright, Henry A., and Arthur W. Bailey. 1982. *Fire ecology, United States and Canada*. John Wiley and Sons, New York, NY. 501 pp.

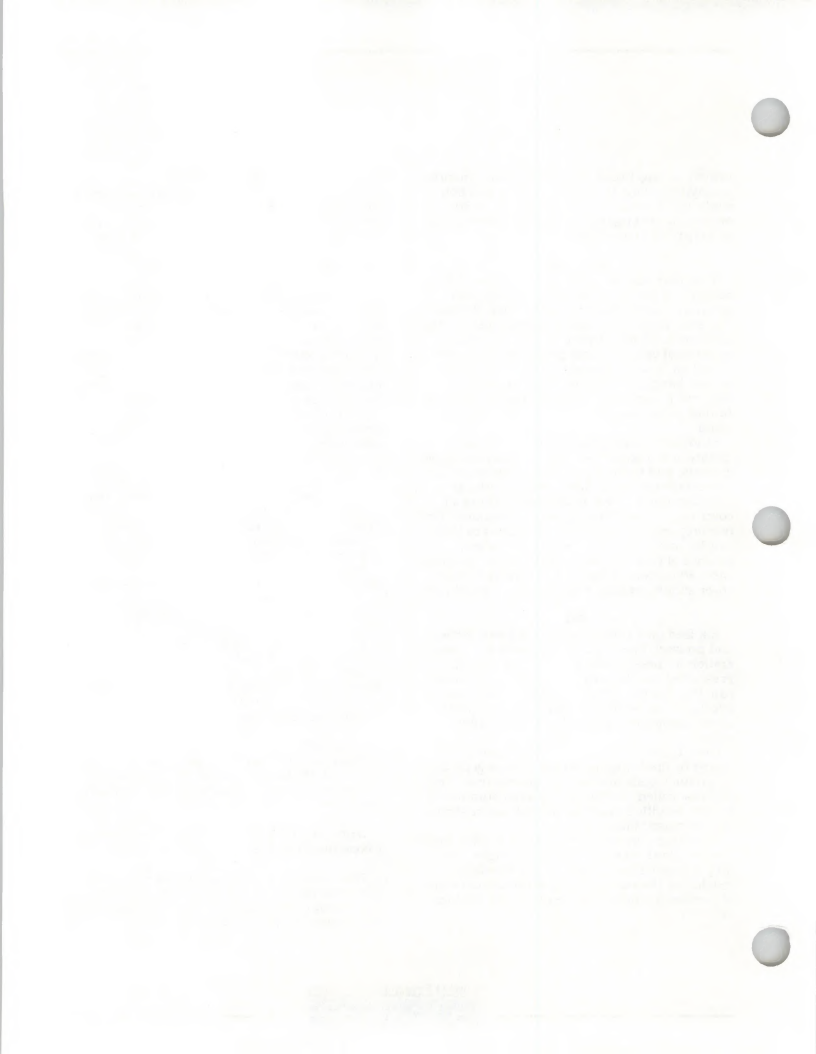
\*Dr. Smith is a fire extension specialist in the Department of Range Management at the University of Wyoming, Laramie. He will conduct prescribed burns on private lands for landowners.

Written by Evin Oneale, through the Wyoming Cooperative Fishery and Wildlife Research Unit.

This publication is one in a series of habitat extension bulletins produced by the Wyoming Game and Fish Department. Call 1-800-842-1934 for additional information or assistance.

Habitat Extension Services





# Sheep of Laramie Peak

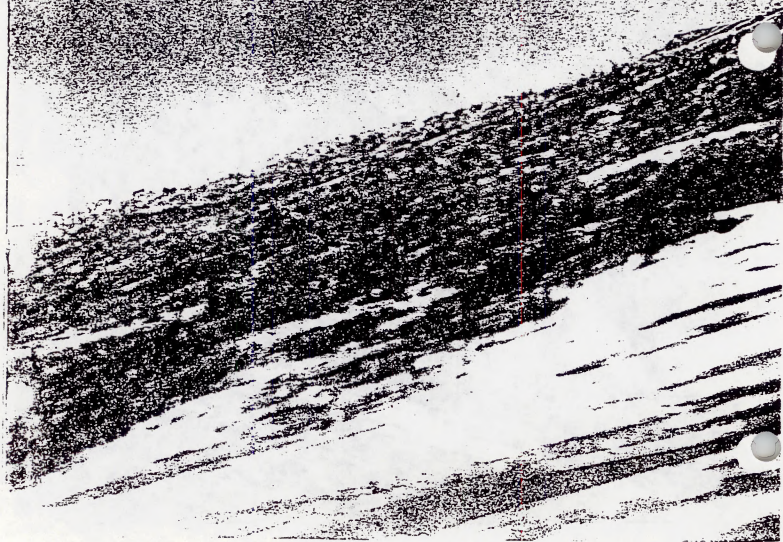
article by Todd Adams  
photography by Jeff Vanuga and LuRay Parker



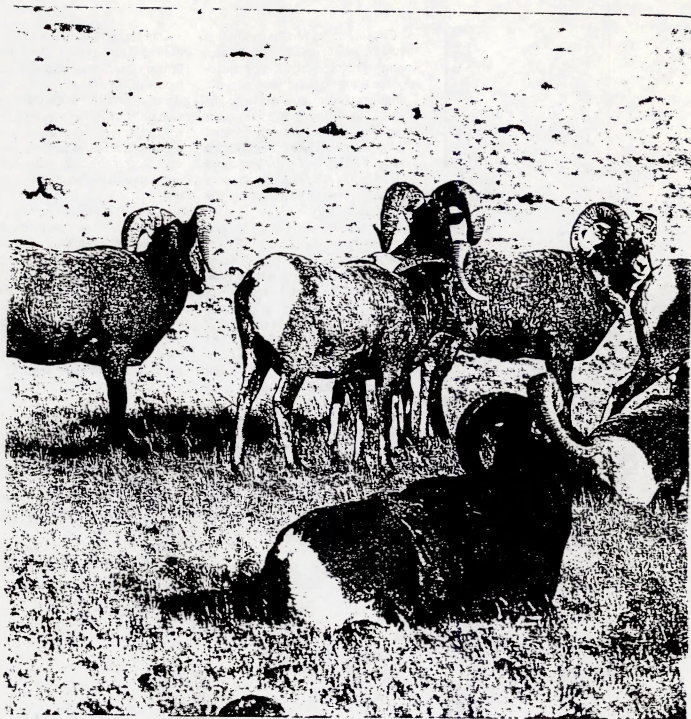


We'd been tracking the bighorn sheep all morning, by radio telemetry and sight, and it finally looked like Dan was going to get his shot. I hung back and framed him, the ram, and two ewes in the viewfinder of my Nikon, then hit the shutter and hoped for the best as he fired the tranquilizer dart into one of the ewes. The three sheep bolted across the rocks on the steep slope overlooking the North Laramie River.

We found them at the head of Yankee Draw, about a mile from where Dan had darted the ewe, some three miles







*The dominance of a small number of rams in a bighorn sheep population can exaggerate genetic problems in isolated sheep populations. The vigor of adults in the population may eventually be affected as a result of inbreeding. (Rams by Lufay Parker; ewe and lamb on previous page by Jeff Kanneen.)*

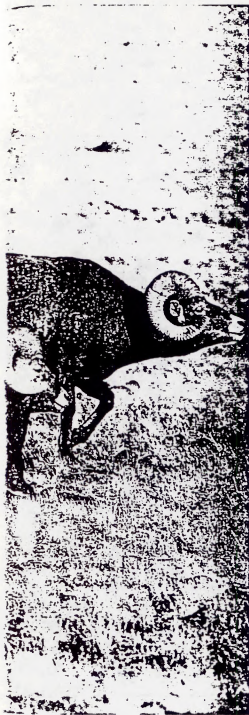
downstream from the abandoned town of Garret, Wyoming. The two ewes and the ram were beautiful in their light winter coats but tough to see against the snow.

The ram and the other ewe took off at our approach, leaving their fallen companion. It wasn't long before we'd collected blood samples, attached a radio collar, and recorded figures on

age, weight, and condition.

Dan Hengel has been studying six herds of sheep in the Laramie Peak area since July 3, 1989, for the University of Wyoming's Cooperative Fishery and Wildlife Research Unit. Dan said our day of darting over the weekend of Feb. 24-25 was a "typical" one.

"It takes you forever to get a shot, seems like," he said.



We hadn't seen a single sheep the day before. In an even more rugged area inhabited by another herd.

Half of the time, Dan never gets a shot. Seven of the fourteen radio collars placed on the sheep to track their movements were bolted on after the sheep had been captured with a net gun fired out of a helicopter in August of 1989.

"Chasing sheep (on the ground) is pretty tough," Dan said. "This is neat country geographically. Topographically speaking, it'll kill you."

Bighorn sheep were native to the Laramie Peak area before they were extirpated in the nineteenth century, known as the Age of Exploitation among wildlife biologists and symbolized by the wholesale slaughter of American bison by hired hunters like Buffalo Bill Cody.

The Wyoming Game and Fish Department has transplanted 168 bighorns from the 1,000-member Whiskey Mountain herd to the Laramie Peak area since 1964. The last group of twenty was transplanted in 1989 and collectively make up the Marshal herd. Five other herds have been established in the Duck Creek, Upper North Laramie, Lower North Laramie, Black Mountain, and LaBonte Canyon areas of Laramie Peak.

Bighorn sheep transplants have been going on in Wyoming since 1934 when twenty sheep were moved from Flat Creek Canyon in Teton County to the Big Horn Mountains, said John Emmerich, a Wyoming Game and Fish Department biologist in Lander. The first bighorns were transplanted from Whiskey Mountain in 1949, Emmerich said.

Dan Hengel's study runs from 1989 to 1992. Thirty radio collars will allow him to collect data on seasonal movements of the bighorns and to follow them around and collect population data on lambing rates, survival rates, sex ratios, numbers of animals lost to predation, accidents, and disease. The study's other objectives include collecting data on seasonal diet and habitat use.

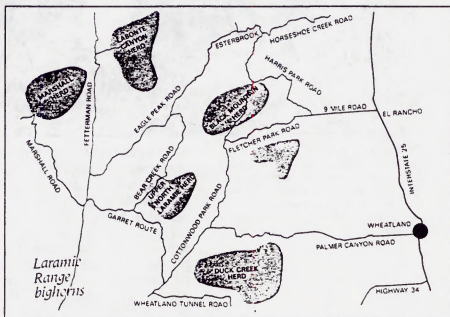
Ultimately, the study will try to determine how successful the transplanting of sheep to the Laramie Peak area has been. Preliminary population data indicate that the herd recently has been declining in numbers, Hengel said.

A population model used by biologists Joe Bohne and Rich Guenzel estimates the 168 transplanted animals should have grown to about 225 individuals. Hengel's low population estimate is 181, his high, 235.

Dan Hengel's toughest work is tracking the Duck Creek herd. So far, only two radio collars have been attached to ewes there, via the helicopter net gun technique.

"Finding them's one thing—getting up on 'em so you can get a shot's another," he said.

The ratio of lambs to ewes in the Duck Creek area has declined from





five lambs per ten ewes in June to about two lambs to ten ewes now, Dan said. In the herd overall, it would be good to see one lamb per ewe and a survival rate of fifty to sixty percent instead of the fifteen to twenty-five percent Dan now estimates.

According to reports given at symposia of the Northern Wild Sheep Council, transplanting bighorn sheep has become a common method to try to increase bighorn sheep herds in the

Rocky Mountain region. Populations of Rocky Mountain bighorn sheep have steadily decreased since the turn of the century due to the social and agricultural activities of man, deterioration of habitat and range, and various diseases, according to researcher Terry Spraker.

Not much information is available on what leads to success or failure in bighorn sheep transplants.

But in an earlier study of several

bighorn herds near Encampment, Wyoming, John Cook concluded that the main limiting factor on bighorn populations is the availability of quality forage, particularly during the summer lambing season. Juveniles were most vulnerable to a lack of quality food.

Infrequent dispersal and specific habitat requirements also limit sheep populations. Researchers agree fire suppression during the last century has probably worsened forage and habitat





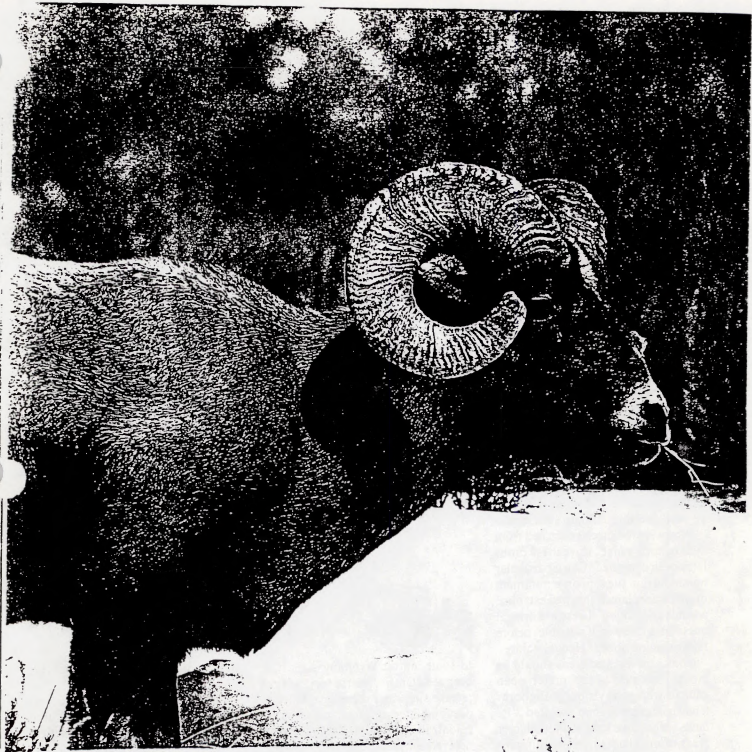
conditions for bighorns.

The timing of lamb births and the green-up of annual grasses is critical and must occur simultaneously to maximize lamb survival. Cook hypothesized that genetic differences may be among the reasons bighorns have disappeared from many low-elevation areas where they thrived during the nineteenth century. The earlier bighorns, which had no access to alpine ranges, probably adapted to the lower

altitudes by timing their birth pulses with the annual green-up of grasses, making lots of high-quality forage available for lactating ewes when they needed it most to produce milk for hungry lambs. But transplanted bighorns from alpine ranges such as Whiskey Mountain may be less adapted to the dry, low-elevation ranges where they are released than were nineteenth-century sheep.

Although forage may be abundant,

*The relationship between births and deaths determines the rate of growth or decline in any population. The health and productivity of the female is generally the key to this relationship. Laramie Peak's bighorn ewes are having trouble bearing enough lambs to sustain the herd. The question is: Why?*





the specific plants needed to meet bighorn nutrient requirements may not. Cook found that only five to fifteen percent of plants met the needs of adult ewes with lambs.

Precipitation is critical to plant growth and sheep survival; Cook predicts that a minimum of sixteen inches per year is needed, and that levels less than ten inches per year will prohibit the successful establishment of a transplanted herd.

Hengel, Cook, and other researchers agree on many of the criteria a potential transplant site should have in order to establish successful bighorn herds. Two primary limiting factors affecting transplant success are escape terrain and high-quality summer forage.

Transplant sites should have average slopes of thirty-five to forty percent or more; some studies show bighorns like slopes two to three times steeper. Sheep like rock outcrops ten to 100 feet high and some larger rock walls of 160 feet or more, open ridges which blow free of snow in the winter, and open travel corridors from one seasonal habitat type to another. Sheep prefer particularly rugged escape terrain for lambing and raising lambs, but water also must be available through late summer.

Why were the sheep extirpated from their historic range? Have these problems been corrected? Can a particular reintroduction site support a minimum of fifty transplanted sheep to establish a viable population? These are critical questions to answer, if possible, before reintroducing sheep, Hengel said.

Cook said forested areas should be avoided because sheep prefer open habitats with good visibility. Bighorns tend to cluster around isolated "islands" of suitable habitat within larger areas of unsuitable habitat. But concentrating sheep facilitates the spread of disease and increases competition for high-quality forage. Hengel added that competition with other wild ungulates and domestic livestock should be avoided, where possible.

Cook listed several management recommendations for Rocky Mountain bighorn sheep. Controlled burns in-

crease forage quality and should be done on lambing-nursery areas, preferably within 200 to 300 yards of rugged escape terrain to benefit summering sheep. The idea is to decrease sagebrush, increase forbs, and maintain deciduous browse.

Deforestation may actually help bighorns, but clearcuts should be near escape terrain.

Techniques of transplanting should be carefully planned to place sheep in areas near the most suitable habitat and to spread sheep throughout a potential range. Cook wrote. Sheep transplanted

*Quality forage is critically important to bighorn sheep. Primary grazers, the sheep require plenty of grass that steep escape cover in order to prosper. Snow-free slopes or windswept ridges are critical to overwinter survival. (Ram and ewe by Larry Parker).*



to southcentral Wyoming sites have been reluctant to disperse very far from release sites, and some have failed to occupy better ranges than those they colonized. Therefore, Cook said multiple release sites should be considered. This would encourage bighorn migrations between alpine summer ranges and low-elevation winter ranges. Both size and distribution of bighorn herds can be increased with multiple release sites.

Drug treatment of diseases such as lungworm and a summer feeding program to supplement diets when ewes

are lactating should be considered, Cook said.

The jury is still out on the success of the Laramie Peak transplant, until sometime after Dan Hengel's field work is completed in 1992 and he's analyzed the population data.

But whatever the results, it's certain that simply transplanting bighorn sheep to a site, even one they historically occupied, isn't enough to ensure their success. A bighorn reintroduction requires careful management. □ □ □

*Todd Adams is a student at the University of Wyoming.*

Date: February 10, 1992

Contact: Debbie Poelker  
(307) 324-4841

# NEWS

## WYOMINGBLM

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United States Department of the Interior   Bureau of Land Management   P O Box 670   Rawlins, Wyoming 82301

The Bureau of Land Management's Bud Holbrook, Area Manager of the Great Divide Resource Area, Rawlins, Wyoming, announced the receipt of a check for \$7,150 from the Wyoming Chapter of the Foundation for the North American Wild Sheep (FNAWS). The money will provide needed financial assistance to an interagency effort to use prescribed burning for improvement of Rocky Mountain bighorn sheep habitat in the Laramie Peak area of east central Wyoming.

Rocky Mountain bighorn sheep were reintroduced into the Laramie Peak area in 1964. As of June 30, 1989, 168 bighorn sheep from the Whiskey Mountain herd near Dubois, Wyoming, have been transplanted. In spite of these releases, the Laramie Peak herd is having difficulties reestablishing itself in this historic bighorn sheep habitat.

The Laramie Peak Bighorn Sheep Technical Committee, comprised of the Wyoming Game and Fish Department, University of Wyoming Cooperative Fish and Wildlife Research Unit, U.S. Forest Service, and the Bureau of Land Management, recommends habitat manipulation through prescribed burns to improve the herds health and vigor. Holbrook says the committee is grateful to FNAWS for their generous contribution to aid the sheep. FNAWS's purpose, as stated in their articles of incorporation, is "to promote the management of, and to safeguard against the extinction of all species of wild sheep native to the continent of North America."

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MEMO

TO: [illegible]

FROM: [illegible]

SUBJECT: [illegible]

[illegible text]

[illegible text]

ORM

A DEM

HABITAT IN BEETLE  
ED BURNING

RC&D AREA

205

WYOMING

SPONSORED BY:

SOUTHEASTERN WYOMING RESOURCE CONSERVATION AND DEVELOPMENT COUNCIL

LARAMIE RIVERS CONSERVATION DISTRICT

WYOMING GAME AND FISH COMMISSION

BUREAU OF LAND MANAGEMENT

U.S. FOREST SERVICE

FOUNDATION FOR NORTH AMERICA WILD SHEEP, WYOMING CHAPTER

SOUTHEASTERN WYOMING RC&D AREA

Prepared with assistance from the U.S. Department of Agriculture,  
Soil Conservation Service

Casper, Wyoming

February, 1992

Prepared under the authority of section 1528-1538 of the  
Agriculture and Food Act of 1981 (P.L. 97-98)

DEPT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
CASPERS, WYOMING  
FEB 19 1992

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### MEASURE PLAN AGREEMENT

Through the request of the S.E. Wyoming RC&D and the Laramie Rivers Conservation District, and the cooperative efforts of the sponsors and the Soil Conservation Service (SCS), this mutually agreeable RC&D Measure plan has been completed. This RC&D Measure has been adopted by the S.E. Wyoming RC&D Council and included in the area plan as a means to accomplish objectives for the area.

## PROBLEMS AND OPPORTUNITIES

This project is located within the Laramie Peak Wildlife Habitat Area in Albany County, Wyoming (Sec. 31, T. 24N., R. 71W.). The location will be more specifically called the Duck Creek - Split Rock area.

Rocky Mountain bighorn sheep (Ovis canadensis canadensis) were reintroduced into the Laramie Peak area of east central Wyoming in 1964. To date, 168 bighorn sheep have been relocated into this area. In spite of these transplants, the Laramie Peak sheep herd appears to be declining.

One serious problem, identified, facing the bighorn sheep and other wildlife in this area is the encroachment of ponderosa pine into historical sheep habitat. Pine stands reduce habitat quality by depleting foraging areas and by creating an impediment to the sheep, particularly when trees divide escape terrain and foraging areas. This is the case on Split Rock Mountain.

Many of the trees on Split Rock Mountain have been killed by the mountain pine beetle. Due to the rugged terrain, it is not possible to harvest the dead trees. Beetle killed trees may begin to fall after five years, depending upon wind, moisture, soil and topography. After these trees have fallen they will create an even greater hindrance to the sheep on the ground, than standing trees. The trees on Split Rock Mountain have been standing dead for three years and longer and some have already fallen.

If these trees are not removed, the chances of an uncontrollable wildfire is greatly increased by the high fuel load. By removing the trees, visibility for foraging sheep will be increased, thus reducing the time and energy spent in a state of alert. Studies have shown that sheep feed more efficiently in the absence of trees.

To cut and burn beetle killed trees in inaccessible areas to benefit wildlife has never been attempted before in this part of Wyoming, if at all. In the Laramie Peak Area there are vast acres of beetle killed trees inaccessible to harvesting, which are especially hindering to bighorn sheep survival. If this project proves successful, this method of tree removal may become widely used as a management tool for improving wildlife habitat in beetle kill areas.

The burn area will be closely monitored for changes in wildlife use and vegetation quantity and quality. Vegetative monitoring cages have already been distributed throughout the proposed burn area, having been slung by helicopter in September 1991 into this remote and rugged area.

### ALTERNATIVES

1. Use fire as a tool to improve forage quality while leaving standing, beetle killed trees to eventually fall naturally.
2. Fall standing, beetle killed trees by mechanical means, then use fire as a tool to "open" the beetle-kill areas and improve vegetation quality and quantity.
3. Do nothing - let nature take its course.

### SELECTED PLAN

Alternative number two has been selected. The proposed action is to prescribe burn approximately 400 acres of sagebrush/grass, mountain shrubs, young ponderosa pine and mature, beetle killed ponderosa pine. The planned burn will be in a mosaic pattern within a 1500 acre area.

The following results are anticipated:

1. Improve forage quality and quantity for bighorn sheep, elk and mule deer by improving grass/forb production, increasing new palatable shrub production and reducing stagnant shrub growth.
2. Improve bighorn sheep feeding sites adjacent to escape terrain and nursery areas.
3. Reduce young ponderosa pine regeneration in the burn units to provide visual migration corridors for wildlife to escape cover or habitat not currently used.
4. Provide uneven - aged forage classes and edge effect by conducting mosaic pattern prescribed burns.
5. Improve wildlife habitat and increase wildlife numbers to provide quality wildlife experiences for the general public wishing to use the 31,000 acre Laramie Peak Wildlife Habitat Area.

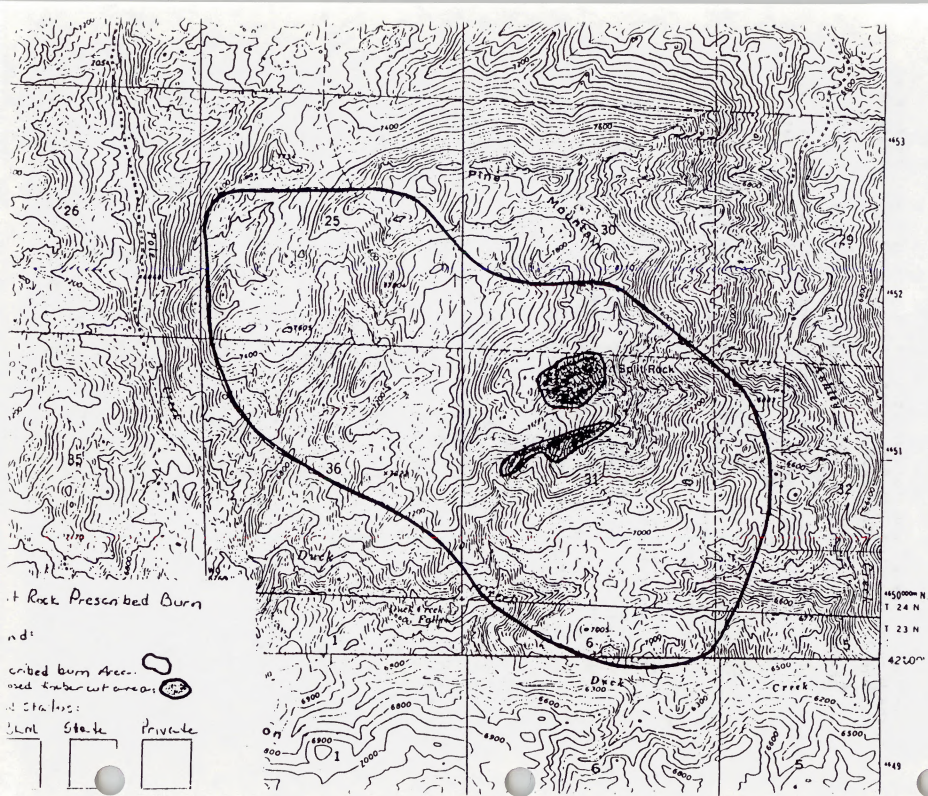
### IMPLEMENTATION STRATEGY

The design, layout and implementation of this project will be done by the Wyoming Game and Fish Department, the Bureau of Land Management and the U.S. Forest Service.

The project will be completed in the following sequence:

1. Pre-burn timber cutting - approximately 27 acres of mature, beetle killed ponderosa pine will be knocked down during the late winter of 1992.
2. Prescribed burn - approximately 400 acres will be burned in the early spring of 1992. This controlled burn will be in a mosaic pattern over a 1500 acre area. A Helicopter/Helitorch will be used during the burn.
3. Post-burn monitoring - the above-named agencies will monitor the results of this project on a continuing basis. Transects will be sampled on burned and unburned sites to determine percent canopy cover, vegetation height and composition. Forage will be clipped and analyzed to determine crude protein and total digestible nutrients. Wildlife species/behavior/numbers will be monitored accordingly.





Rock Prescribed Burn

nd:

cribed burn Area.  
and timber wt areas

Stations:

Unit Stake Private

A DEMONSTRATION TO EVALUATE AND IMPROVE WILDLIFE HABITAT IN BEETLE  
KILLED PONDEROSA PINE BY USING PRESCRIBED BURNING

Cost Estimates

TIMBER CUT:

Helicopter: (breakdown in proposal)	SUB-TOTAL	\$6985.00
Personnel: 5 people x \$12.00 x 10 hrs/day x 5 days:		\$3000.00
Per diem: 5 people x \$30.00/day x 5 days:		<u>\$ 750.00</u>
	SUB-TOTAL	\$3750.00

TOTAL FOR TIMBER CUT= \$10,735.00

**BURN:**

**PERSONAL & PER DIEM:**

To blackline and burn: 15 people x \$12.00/hr x 10 hrs/day x 5 days:	\$9000.00
Per diem: 15 people x \$30.00 x 5 days:	\$2250.00
Holding force/postburn: 2 people x \$12.00/hr x 10 hrs/day x 2 days:	\$480.00
Per diem: 2 people x \$30.00/day x 2 days:	\$120.00
Travel expense:	<u>\$450.00</u>
	SUB-TOTAL \$12,300.00

**HELICOPTER:**

Helicopter	\$1375.00
Helitorch fuel	\$800.00
Fuel truck	\$225.00
Per diem pilot & truck driver	<u>\$600.00</u>
	SUB-TOTAL \$3000.00
Helicopter	SUB-TOTAL \$7150.00
TOTAL OF BURN= \$22,450.00	

-----  
GRAND TOTAL FOR PROJECT= \$33,185.00

COST-SHARE PROPOSAL PER AGENCY

TOTAL PROJECT COST

\$33,185.00

TOTAL COST PER AGENCY

Wyoming Game and Fish Department	\$10,650.00
U. S. Forest Service	750.00
Bureau of Land Management	7,650.00
Wyoming Chapter Foundation for N.A. Wild Sheep	7,150.00
S.E. Wyoming Resource Conservation and Development <sup>1</sup>	<u>6,985.00</u>
Total	\$33,185.00

<sup>1</sup> Refers to appropriation that would come to the Southeastern W: RC&D through the Wyoming SCS/RC&D budget.

MAINTENANCE AGREEMENT

Project maintenance will be the responsibility of the Bureau of Land Management.

Maintenance includes performance of work and providing the materials to prevent the deterioration of practices and/or repair damage to or replacement of the practice if one or more of its components fail. This includes both routine and recurring needs. Damages to completed practices caused by normal deterioration, drought, flooding caused by rainfall in excess of design, or vandalism is considered maintenance.

The undersigned will be responsible for maintenance.

By

R. L. Whitworth

Date

3-5-92

Title

Area Manager



### COMPLIANCE WITH CIVIL RIGHTS ACT

The RC&D program will be conducted in compliance with the nondiscrimination provisions as contained in Title VI and VII of the Civil Rights Act of 1964 as amended, the Civil Rights Restoration Act of 1987 (Pub. Law 100-259) and other nondiscrimination statutes; namely, Section 504, of the Rehabilitation Act of 1973, Title IX of the Education Amendments of 1972, the Age Discrimination Act of 1975 and in accordance with the regulations of the Secretary of Agriculture (7CFR-15, Subparts A & B) which provide that no person in the United States shall, on the ground of race, color, national origin, age, sex, religion, marital status, or handicap/disability be excluded from participation in, or be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving federal financial (or technical) assistance from the Department of Agriculture or any agency thereof.

### NO MEMBER OF CONGRESS TO BENEFIT

No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of agreement, or to any benefit arising from it. However, this clause does not apply to this agreement to the extent that this agreement is made with a corporation for the corporation's general benefit.

### AGREEMENT REQUIRED TO OBLIGATE FUNDS

This is not a fund-obligating document. Financial and other assistance to be furnished by SCS in carrying out the work in this plan is contingent on the appropriation of funds for this purpose. A separate agreement will be entered into between SCS and sponsors before either party initiates work involving funds of the other party. Such an agreement will set forth in detail the financial and working arrangements and other conditions that are applicable to the specific improvements to be installed.



SIGNATURE BLOCK

A DEMONSTRATION TO EVALUATE AND IMPROVE WILDLIFE HABITAT IN BEETLE  
KILLED PONDEROSA PINE BY USING PRESCRIBED BURNING

\* \* \* \* \*

This project measure, implementation and proposed funding have been  
reviewed and approved.

The plan may be amended, revised or terminated by mutual agreement of  
the parties hereto.

SOUTHEASTERN WYOMING RC&D COUNCIL:

BY Bud U. Lowe DATE 2-20-92  
TITLE Chairman

LARAMIE RIVERS CONSERVATION DISTRICT:

BY David E. Whitman DATE 2/27/92  
TITLE Chairman

WYOMING GAME AND FISH COMMISSION:

BY Francis Cetera DATE 2/21/92  
TITLE Director

BUREAU OF LAND MANAGEMENT:

BY Bob L. Wolfe DATE 3-5-92  
TITLE Area Manager

U.S. FOREST SERVICE:

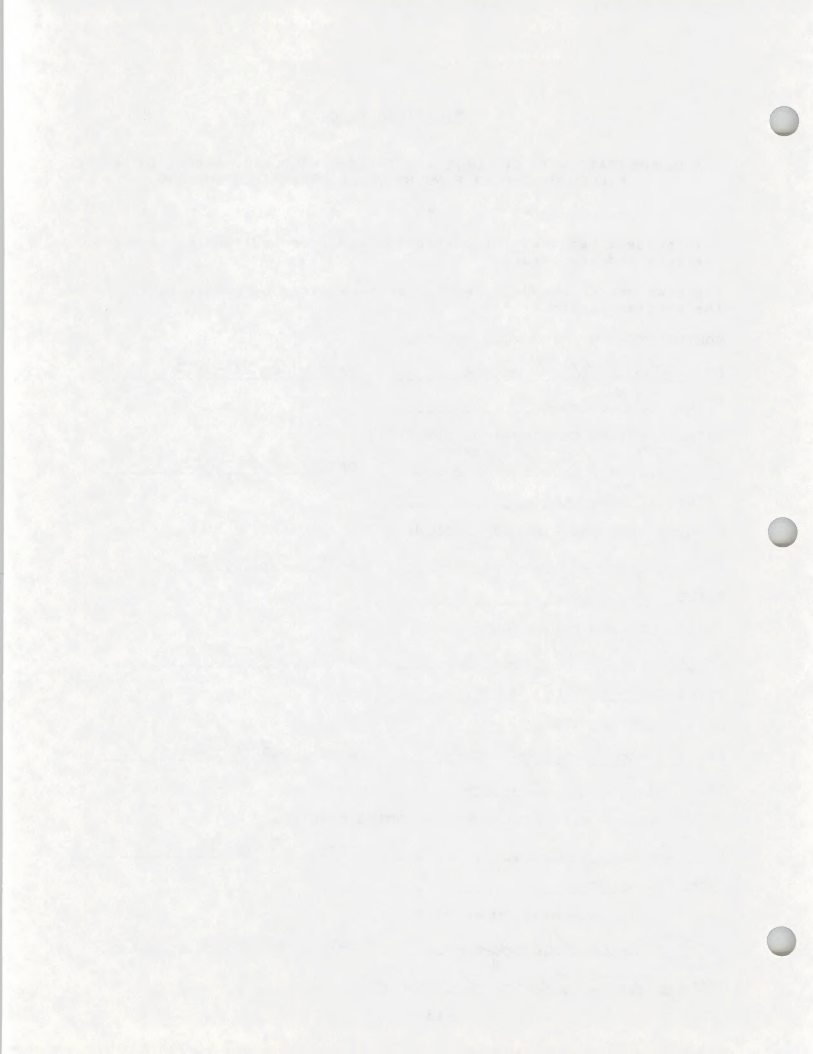
BY Donald G. Hensen DATE 3/9/92  
TITLE District Ranger

FOUNDATION OF N.A. WILD SHEEP, WYOMING CHAPTER:

BY Dan Osting DATE 3-6-92  
TITLE Director

USDA - SOIL CONSERVATION SERVICE:

BY Frank Dickson DATE March 17, 1992  
TITLE State Conservationist



February 3, 1992

Myron J. Wakkuri  
Project Coordinator  
USDA Soil Conservation Service  
1302-B 9th Street  
Wheatland, Wyoming 82201

Dear Mr. Wakkuri:

This grant proposal would provide needed financial assistance to an interagency effort to improve Rocky Mountain bighorn sheep habitat in the Laramie Peak area of east central Wyoming. Cooperating agencies in the "Laramie Peak Bighorn Sheep Technical Committee" and this project include Wyoming Game and Fish Department, University of Wyoming Cooperative Fishery and Wildlife Research Unit, U.S. Forest Service and the Bureau of Land Management. Funds, equipment and personnel will be provided by the above mentioned agencies, and additional financial assistance from SCS is requested to administer the execution of this project.

Rocky Mountain bighorn sheep (*Ovis canadensis canadensis*) were reintroduced into the Laramie Peak area of east central Wyoming in 1964. As of June 30, 1989, 168 bighorn sheep have been transported from the Whiskey Mountain herd near Dubois, Wyoming and released near Laramie Peak. In spite of these transplants, the Laramie Peak sheep herd appears to be declining. The Wyoming Game and Fish Department has set the strategic plan objective for the Laramie Peak sheep herd at 500 animals and the strategic harvest objective at 24 rams annually. However since the first hunting season in 1969, no single year harvest has exceeded 7 rams. The current population for the Laramie Peak herd is estimated at 227 sheep and 50-60 sheep for the Duck Creek-Split Rock subherd. Through habitat manipulation in the way of prescribed burns, and the removal of beetle killed pine, the committee hopes to improve herd health and vigor.

There is an element of urgency in that the trees need to be cut as soon as possible in preparation for a late winter/early spring burn. If SCS cannot provide funding or if the total cost for helicopter time is greater than what is estimated here, the Wyoming Cooperative Fishery and Wildlife Research Unit will pay the cost from big horn sheep project money.

If SCS does provide funding for this project, one option might be that the SCS directly pay the helicopter company. Another option is that the SCS enter into a reimbursable agreement with the Bureau of Land Management. Deborah Poelker of this office sent the forms for this agreement to your office last month.

Please contact Deborah Poelker at (307)324-4841 with any questions or comments.

Sincerely,

/s/ Bud Halbrook

Area Manager  
Great Divide Resource Area

DPOELKER:gs:1-31-92:\multi\wakklet.dp

CORRESPONDENCE STAMP  
☐ Subject Function File  
☐ Reading File  
☐ Case File  
☐ Originator

## **APPENDIX II**

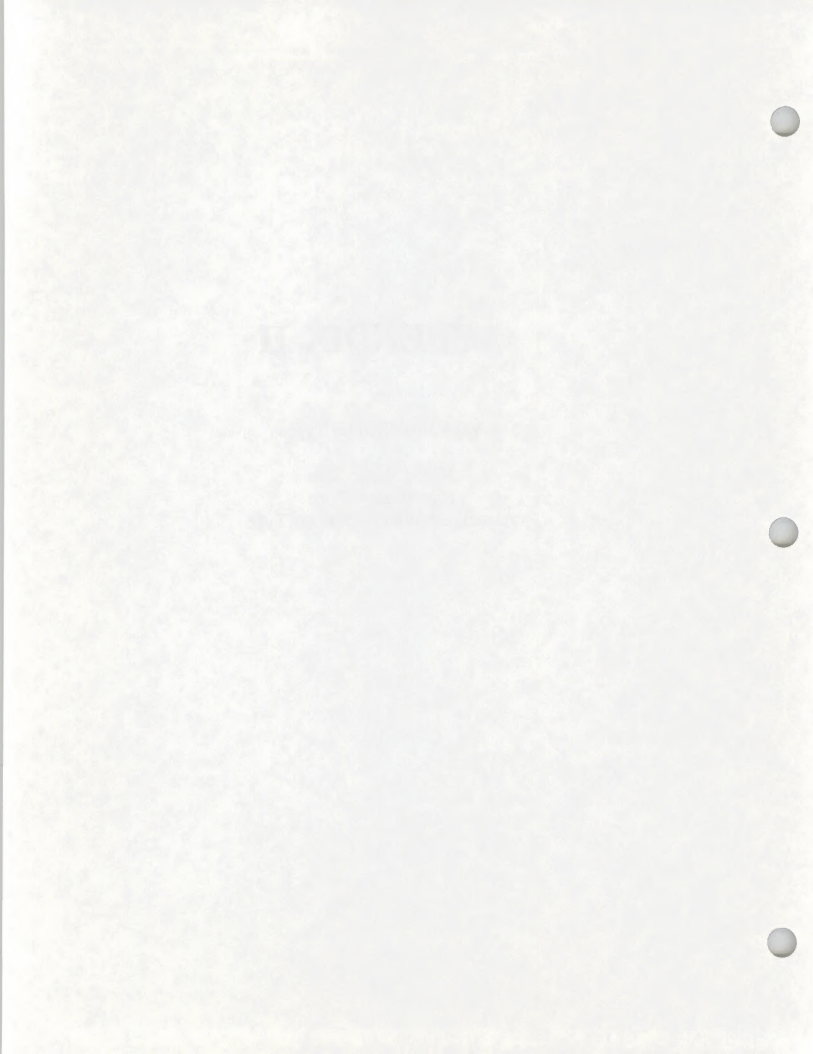
**Vegetation/Habitat Types**

**Major Range Sites**

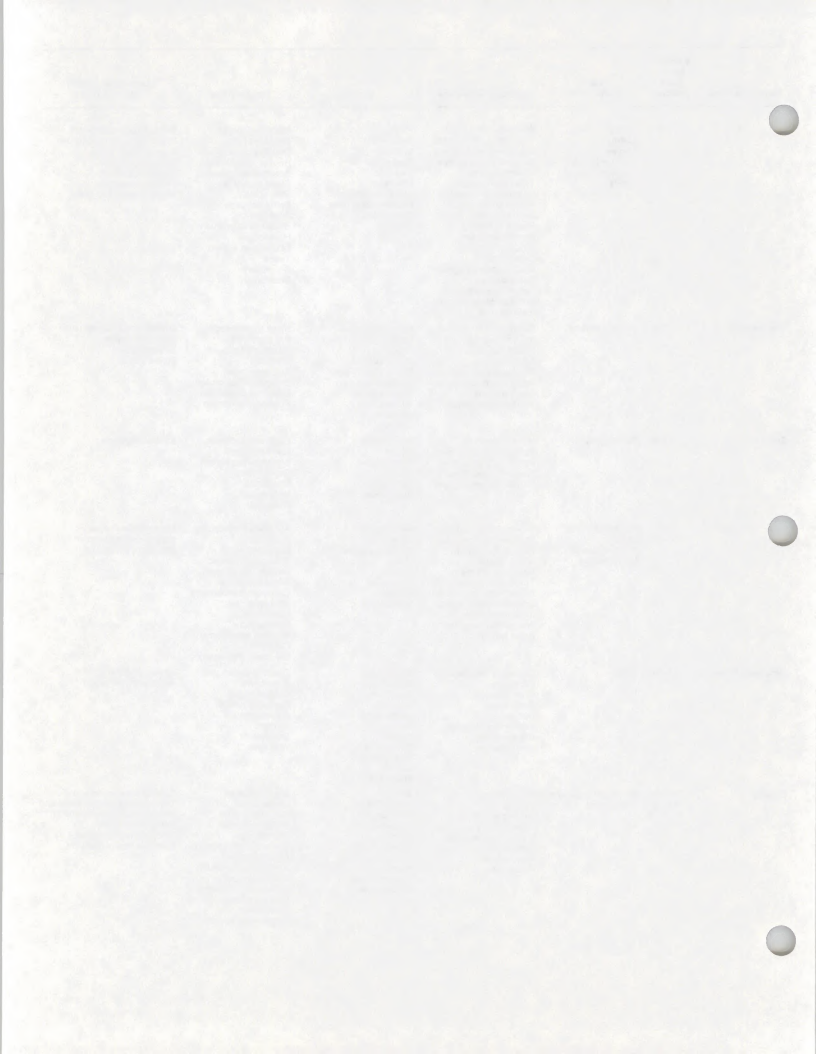
**Precipitation Zone**

**Associated Wildlife Habitat Type**





Vegetative Type	Precipitation Zone (Inches)	Major Range Sites <sup>1</sup>	Grasses/Grasslike	Forbs	Shrubs/Trees	Associated Wildlife Habitat Type
sh	All	Sandy Loamy Clayey Shallow Sandy Shallow Loamy Sands	Western wheatgrass Thickspike wheatgrass Bluebunch wheatgrass Sandberg's bluegrass Indian ricegrass Threadleaf sedge Needle-and-thread Prairie junegrass Sand dropseed Prairie sandreed Plains reedgrass King-spike fescue Oniongrass Columbia needlegrass Basin wildrye Mountain brome Bottlebrush squirreltail Idaho fescue	Phlox Buckwheat Lupine Pussytoes Aster Milkvetch Indian paintbrush Plains prickly pear Penstemon Vetch	Black sagebrush Big sagebrush Douglas rabbitbrush Rubber rabbitbrush Broom ananeweed Silver sagebrush Shadscale Spiny cholla Winterfat Birdfoot sagebrush Horsebrush Skunkbush sumac Yucca Snowberry Bitterbrush	Greasewood-sagebrush Big sagebrush-rabbitbrush Yucca-mixed grass Black sagebrush Silver sagebrush Tall sagebrush Sagebrush-mixed grass
Greasewood	7-9	Saline Lowland	Sandberg's bluegrass Indian ricegrass Indian saltgrass Alkali sacaton Thickspike wheatgrass Bottlebrush squirreltail Basin wildrye Nuttall's alkali grass	Pursh seepweed Dock Phlox Biscuitroot Plains prickly pear Pepperweed Globemallow Milkvetch Ajacium Onion	Black greasewood Big sagebrush Gardner's saltbush Winterfat Bud sagebrush Douglas rabbitbrush Birdfoot sagebrush Rubber rabbitbrush	Greasewood-sagebrush Saltbush steppe Greasewood Mixed shrub
Saltbush	7-9	Saline Upland	Indian ricegrass Bottlebrush squirreltail Sandberg's bluegrass Western wheatgrass Bluebunch wheatgrass	Biscuitroot Onion Woody aster Phlox Penstemon Buckwheat	Gardner's saltbush Bud sagebrush Birdfoot sagebrush Greasewood Shadscale Horsebrush Winterfat	Saltbush Steppe
'n shrub	10-14 15-19	Rocky Hills Loamy Shallow Loamy Very Shallow	Bluebunch wheatgrass Sandberg's bluegrass King-spike fescue Idaho fescue Mountain brome Threadleaf sedge Bottlebrush squirreltail Columbia needlegrass Indian ricegrass Western wheatgrass Ross' sedge	Penstemon Buckwheat Western yarrow Violet Lupine Cinquefoil Arnica Balsamroot	Antelope bitterbrush Snowberry Big sagebrush Skunkbush sumac Rubber rabbitbrush Silver sagebrush Common chokecherry Wild rose Ceanothus Serviceberry Western snowberry Currant Mountain mahogany	Mountain mahogany Bitterbrush-sagebrush Mountain shrubland
Broadleaf Trees	15-19	Aspen	Columbia needlegrass Elk sedge Bromegrasses Ryegrasses Sedges Kentucky bluegrass Big bluegrass Idaho fescue	Buckwheat Columbine Geranium Elkweed Licoriceroot Yarrow Arnica Cinquefoil Strawberry Lupine Waterleaf	Quaking aspen Snowberry Oregon grape Creeping juniper Buffalobery Currant Douglas-fir Wild rose	Aspen woodland Aspen-conifer wood
Conifer	10-14 15-19	No major range site identified	Bluegrasses Sedges Mountain brome Idaho fescue Western wheatgrass Elk sedge Needlegrass Pinegrass	Arnica Balsamroot Penstemon Bedstraw Vetch Hawkbeard Western yarrow Aster Mountain pea Wintergreen	Big sagebrush Limmer pine Lodgepole pine Ponderosa pine Snowberry Common chokecherry Quaking aspen Antelope bitterbrush Creeping juniper Grouse whortleberry Oregon grape Douglas-fir Englemann spruce	Limmer pine woodland Limmer pine/juniper woodland Aspen-conifer woodland Douglas-fir forest Lodgepole pine forest Laramie Peaks rockland



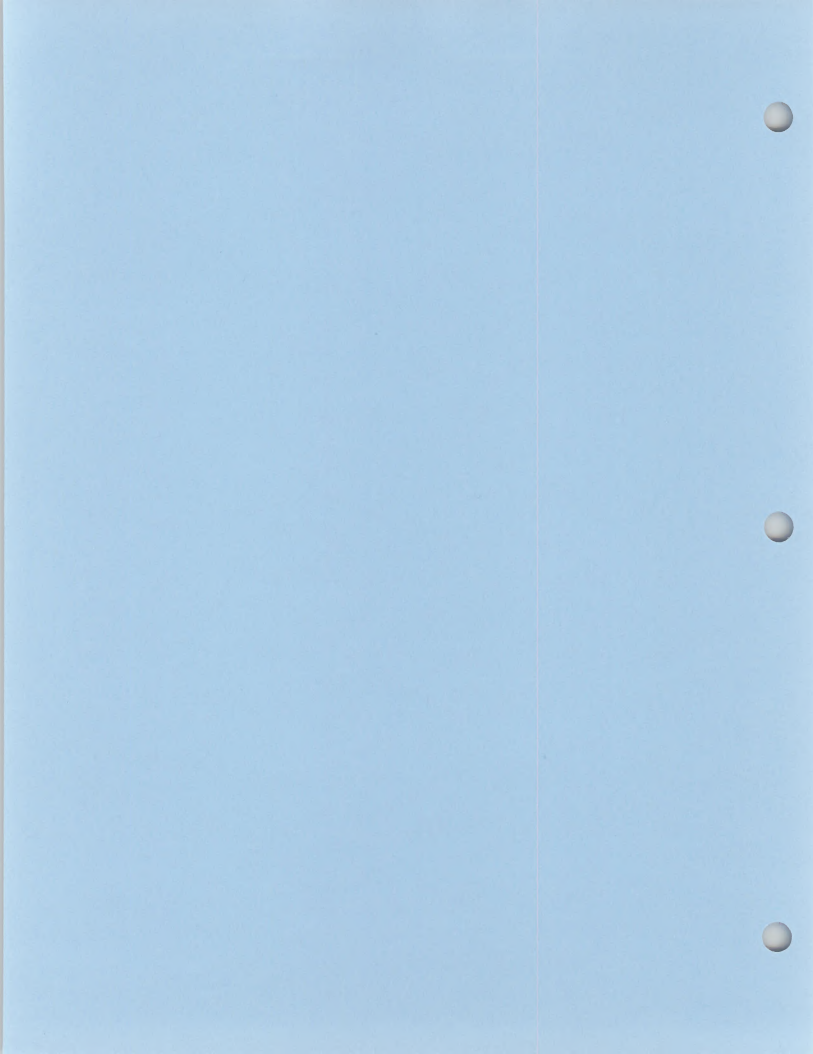
Vegetative Type	Precipitation Zone (Inches)	Major Range Sites <sup>1</sup>	Grasses/Grazeables	Forbs	Shrubs/Trees	Associated Wildlife Habitat Type
Grass	7-9 10-14	Shallow Clayey Impervious Clay	Western wheatgrass Thickspike wheatgrass Bluebunch wheatgrass Streambank wheatgrass Needle-and-thread Sandberg's bluegrass Indian ricegrass Blue grama Threawn Prairie junegrass Threadleaf sedge Bottlebrush squirreltail	Biscuitroot Phlox Buckwheat Pussytoes Aster Woody aster	Big sagebrush Douglas rabbitbrush Birdfoot sagebrush Black sagebrush Threetip sagebrush Gardner's saltbush Winterfat Bud sagebrush	Shortgrass Sagebrush-mixed shrub Sagebrush-mixed grass
Meadow/Riparian	All	Subirrigated Saline Subirrigated Wetland Lowland	Thickspike wheatgrass Kentucky bluegrass Tufted hairgrass Mat muhly Rushes Sedges Alkali sycamore Inland saltgrass Cattail Bulrushes Spikesedge Basin wildrye Redtop Manna grasses Brookgrass	Thistle Iris Lupine Mint Horsetail Aster Violet Buttercup Sea milkwort Arrowgrass Plantain Goldenrod Cinquefoil	Rubber rabbitbrush Narrowleaf cottonwood Waterbirch Dogwood Common chokecherry Currant Shrubby cinquefoil Willow Silverberry Wild rose Aspen Buffalobery Hawthorn	Riparian grassland Aspen riparian woodland Cottonwood floodplain Willow/waterbirch floodplain Wetland Subirrigated meadow Saline subirrigated meadow
Juniper	10-14	Shallow Breaks	Mutton bluegrass Western wheatgrass Threadleaf sedge Bluebunch wheatgrass Idaho fescue Indian ricegrass Green needlegrass Needle-and-thread Thickspike wheatgrass Prairie junegrass	Indian paintbrush Larkspur Penstemon Goldenweed Aster Buckwheat Stonecrop	Utah juniper Rocky Mountain juniper Big sagebrush Winterfat Low rabbitbrush Antelope bitterbrush Mountain mahogany	Utah juniper woodland Mountain shrubland Utah juniper woodland- Limon pine woodland
Rockland	10-14 15-19	Igneous Shallow Igneous	Prairie junegrass Creeping wheatgrass Thickspike wheatgrass Griffith wheatgrass Bluebunch wheatgrass Idaho fescue Onespike danthonia Siltstern muhly Mountain muhly Columbia needlegrass	Penstemon Pussytoes Biscuitroot Phlox Cinquefoil Balsamroot Yarrow Aster Stonecrop	Rocky Mountain juniper Limon pine Big sagebrush Creeping juniper Antelope bitterbrush Snowberry Black sagebrush Currant Oceanspray	Laramie Peaks rockland Mountain mahogany Badland
Barren	All	Badland Rock Outcrop Barren Steep Slope Shale	If vegetation is present at all, most of the plant species associated with the waste subtypes in the RMP area are those associated with the shortgrass, sagebrush, mountain shrubs, or juniper types. Laramie Peaks rockland			Limon pine woodland Mountain mahogany Badland

<sup>1</sup> SCS site identification









# **APPENDIX III**

## **Laramie Peak HMP Species List**

**Common Species  
Threatened/Endangered Species  
Species of Special Concern**



# LARAMIE PEAK HMP WILDLIFE SPECIES LIST

## MAMMALS

Masked Shrew	<i>Sorex cinereus</i>
Water Shrew	<i>Sorex palustris</i>
Western Small-footed Myotis	<i>Myotis californicus</i>
Long-eared Myotis	<i>Myotis evotis</i>
Little Brown Myotis	<i>Myotis lucifugus</i>
Long-legged Myotis	<i>Myotis volans</i>
Silver-haired Bat	<i>Lasioryctes noctivagans</i>
Big Brown Bat	<i>Eptesicus fuscus</i>
Desert Cottontail	<i>Sylvilagus auduboni</i>
Black-tailed Jackrabbit	<i>Lepus californicus</i>
White-tailed Jackrabbit	<i>Lepus townsendii</i>
Yellow-pine Chipmunk	<i>Tamias amoenus</i>
Least Chipmunk	<i>Tamias minimus</i>
Yellow-bellied Squirrel	<i>Neotoma flaviventris</i>
Wyoming Ground Squirrel	<i>Spermophilus elegans</i>
Golden-mantled Ground Squirrel	<i>Spermophilus lateralis</i>
Thirteen-lined Ground Squirrel	<i>Spermophilus tridecemlineatus</i>
White-tailed Prairie Dog	<i>Cynomys leucurus</i>
Fox Squirrel	<i>Sciurus niger</i>
Red Squirrel	<i>Tamiasciurus hudsonicus</i>
Northern Pocket Gopher	<i>Thomomys talpoides</i>
Olive-backed Pocket mouse	<i>Perognathus fasciatus</i>
Orr's Kangaroo Rat	<i>Dipodomys ordii</i>
Beaver	<i>Castor canadensis</i>
Deer Mouse	<i>Peromyscus maniculatus</i>
Northern Grasshopper Mouse	<i>Onychomys leucogaster</i>
Bushy-tailed Woodrat	<i>Neotoma cinerea</i>
Southern Red-backed Vole	<i>Clathromys gapperi</i>
Long-tailed Vole	<i>Microtus longicaudus</i>
Montane Vole	<i>Microtus montanus</i>
Prairie Vole	<i>Microtus ochrogaster</i>
Sagebrush Vole	<i>Lemmus curtatus</i>
Muskrat	<i>Ondatra albicollis</i>
Norway Rat	<i>Rattus norvegicus</i>
House Mouse	<i>Mus musculus</i>
Western Jumping Mouse	<i>Sapoz princeps</i>
Porcupine	<i>Erethizon dorsatum</i>
Coyote	<i>Canis latrans</i>
Red Fox	<i>Vulpes vulpes</i>
Gray Fox	<i>Urocyon cinereoargenteus</i>
Black Bear	<i>Ursus americanus</i>
Raccoon	<i>Procyon lotor</i>
Marten	<i>Marx americana</i>
Ermine	<i>Mustela erminea</i>
Long-tailed Weasle	<i>Mustela frenata</i>
Mink	<i>Mustela vison</i>
Sagecat	<i>Taxidea taxus</i>
Western Spotted Skunk	<i>Spilogale gracilis</i>
Eastern Spotted Skunk	<i>Spilogale putorius</i>
Striped Skunk	<i>Mephitis mephitis</i>
Mountain Lion	<i>Felis concolor</i>
Bobcat	<i>Felis rufus</i>
Sik	<i>Canis canadensis</i>
Mule Deer	<i>Odocoileus hemionus</i>
White-tailed Deer	<i>Odocoileus virginianus</i>
Moose	<i>Alces alces</i>
Prairie Antelope	<i>Antilocapra americana</i>

## FISH

Rainbow Trout	<i>Oncorhynchus mykiss</i>
Brown Trout	<i>Salmo trutta</i>
Brook Trout	<i>Salvelinus fontinalis</i>
Crack Chub	<i>Pomoxis strimaculus</i>
Longnose Sucker	<i>Catostomus commersoni</i>
White Sucker	<i>Catostomus commersoni</i>

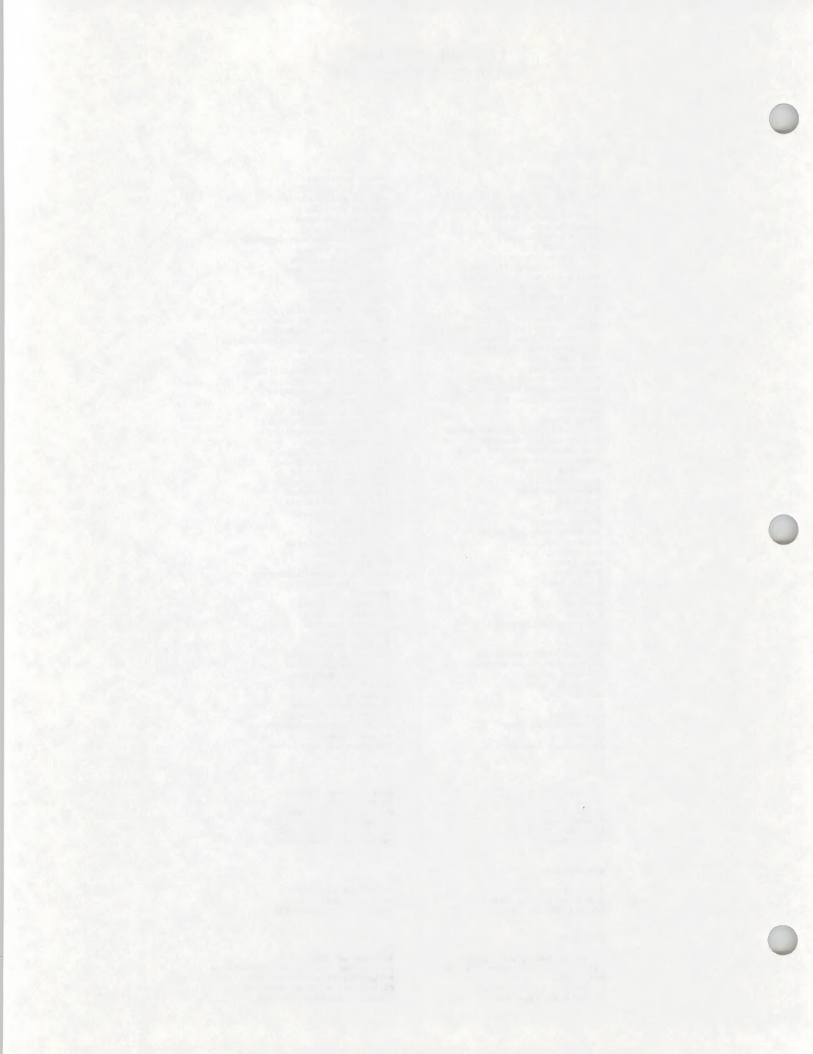
## AMPHIBIANS

Tiger Salamander	<i>Ambystoma tigrinum</i>
Northern Leopard Frog	<i>Rana pipiens</i>
Boreal Chorus Frog	<i>Pseudacris triseriata</i>

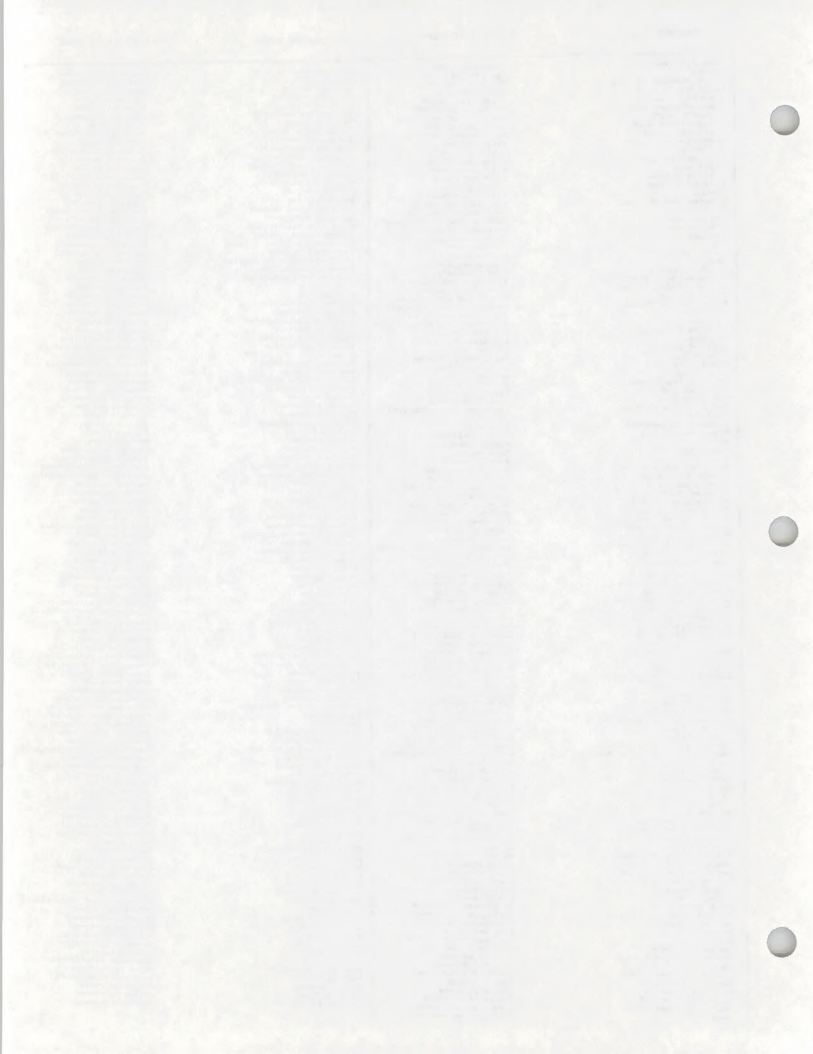
## REPTILES

Northern Sagebrush Lizard	<i>Sceloporus graciosus</i>
Eastern Short-horned Lizard	<i>Phrynosoma douglasii brevirostre</i>
Bullsnake	<i>Pituophis melanoleucus sayi</i>
Wandering Garter Snake	<i>Thamnophis elegans elegans</i>
Prairie Rattlesnake	<i>Crotalus viridis viridis</i>









CONVERSATION RECORD			TIME 1245	DATE 10-7-94
TYPE	<input type="checkbox"/> VISIT <input type="checkbox"/> CONFERENCE <input checked="" type="checkbox"/> TELEPHONE			
Location of Visit/Conference:				
NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU  Mike Jennings	ORGANIZATION (Office, dept., bureau, etc.)  USFWS	<input type="checkbox"/> INCOMING <input checked="" type="checkbox"/> OUTGOING TELEPHONE NO. 307-772-2374		
SUBJECT				
I discussed the informal consultation process that must be				
completed for all land management actions - Laramie Peak HMP				

ROUTING	
NAME/SYMBOL	INT

**SUMMARY**

After a discussion with Mike concerning the informal consultation process for T/E species for land management documents, he stated that he prefers to complete consultations at the EA level. It is really at this level that pertinent information can be truly assessed, especially if some of these planned actions will not occur for years down the road. Completing an assessment now does not really analyze the true conditions and or events that will occur in the near future and later on. An EA for a programmatic HMP does not address the "true" T/E conditions, especially if planned actions do not occur years down the road. He would rather do a more thorough analysis at each EA level for the 15 projects involved in the HMP --it's more effective and accurate that way. I explained that we hope to use an Administrative Determination Document tiered off of the GDRA RMP, which he feels makes more sense, but if we have to use an EA, then he will have to view the HMP and complete formal consultation. He'd rather do this at the individual EA level (15 total)

**ACTION REQUIRED**

Simply see if an AD document passes and is signed by the Area Manager, then contact the USFWS on each EA for informal/formal consultation

NAME OF PERSON DOCUMENTING CONVERSATION  Mary J. Read	SIGNATURE  <i>Mary J. Read</i>	DATE  10-7-94
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**ACTION TAKEN**

Consult USFWS for all EAs in progress in HMP

SIGNATURE  <i>Mary J. Read</i>	TITLE  Wildlife Biologist	DATE  10-7-94
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FD-302 (Rev. 11-27-70)

1. Name of Subject: \_\_\_\_\_

2. Date of Birth: \_\_\_\_\_

3. Sex: \_\_\_\_\_

4. Race: \_\_\_\_\_

5. Height: \_\_\_\_\_

6. Weight: \_\_\_\_\_

7. Eyes: \_\_\_\_\_

8. Hair: \_\_\_\_\_

9. Complexion: \_\_\_\_\_

10. Date of Interview: \_\_\_\_\_

11. Time of Interview: \_\_\_\_\_

12. Place of Interview: \_\_\_\_\_

13. Name of Interviewer: \_\_\_\_\_

14. Name of Agent: \_\_\_\_\_

15. Name of Supervisor: \_\_\_\_\_

16. Name of Officer: \_\_\_\_\_

17. Name of Clerk: \_\_\_\_\_

18. Name of Typist: \_\_\_\_\_

19. Name of Photographer: \_\_\_\_\_

20. Name of Interpreter: \_\_\_\_\_

21. Name of Translator: \_\_\_\_\_

22. Name of Recorder: \_\_\_\_\_

23. Name of Observer: \_\_\_\_\_

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## SPECIAL STATUS SPECIES

Species (common names)	Status Refer to key below	Ponds	Rivers	Lakes	Marshes	Riparian	Grass forb	Shrub seedling	Pole sapling	Young	Mature	Old growth	Refer to below key for specific vegetation species or other specific features
<b>MAMMALS</b>													
Dwarf Shrew	NG2				•	•	•	•	•	•	•	•	1,3,4
Hoary Bat	NG3	•	•	•	•	•	•	•	•	•	•	•	1,10,4,6
Fringed-tailed Myotis	C2	•	•	•	•	•	•	•	•	•	•	•	1,10,5,4
Townsend's Big-eared Bat	C2					•	•	•	•	•	•	•	1,10,6,7
Black-footed Ferret	END						•	•					4
River Otter	NG3	•	•	•	•	•	•	•	•	•	•	•	1,6,7,8,11
Swift Fox	C2					•	•	•					4,6,9
North American Wolverine	C2					•	•	•	•	•	•	•	1,3
North American Lynx	C2					•	•	•	•	•	•	•	1,13
Plains Pocket Mouse	NG3					•	•	•					4
<b>BIRDS</b>													
Common Loon	NG1			•									
Western Grebe	NG2			•	•								
Clark's Grebe	NG2			•	•								
American White Pelican	NG1	•	•	•									
American Bittern	NG2				•	•							
Great Blue Heron	NG3		•	•	•	•							1,8,11,12
Snowy Egret	NG1		•	•	•			•					

## KEY - STATUS

ND - Federally listed as Endangered

HR - Federally listed as Threatened

G1 - Priority I Nongame Species

G2 - Priority II Nongame Species

G3 - Priority III Nongame Species

- Candidate Species for Federal listing (WOFFD)

1 - USFWS Notice of Review, Category 1

2 - USFWS Notice of Review, Category 2

3 - USFWS Notice of Review, Category 3

- Supplemental Wildlife Information Status (Appendix II for definitions)

## KEY - SPECIFIC SPECIES OR FEATURES

1. Coniferous forest

2. Aspen

3. Alpine grasslands

4. Basin-prairie shrublands

5. Woodland-chaparral

6. Mountain-foothills shrublands

7. Pine-juniper

8. Lodgepole pine

9. Mountain-foothills grasslands

10. Rock outcrops/caves

11. Ponderosa pine

12. Quaking aspen

13. Swamps

LARAMIE PEAK HMP  
SPECIAL STATUS SPECIES

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	12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## SPECIAL STATUS SPECIES

Species (common names)	Status Refer to key below	Ponds	Rivers	Lakes	Marshes	Riparian	Grass forb	Shrub seedling	Pole sapling	Young	Mature	Old growth	Refer to below key for specific vegetation species or other specific features
BIRDS Continued													
Black-crowned Night Heron	NG1		•	•	•	•							12
White-faced Ibis	C,NG1			•	•								
Trumpeter Swan	C,NG1	•	•	•	•								
Bald Eagle	END		•	•		•							1,8,11,12
Northern Goshawk	C2					•		•	•	•	•	•	2,8,11,12
Ferruginous Hawk	C2						•	•					4,9,10,11
Merlin	NG2					•	•	•	•	•	•	•	1,8,11,12
Peregrin Falcon	END			•	•	•	•	•	•	•	•	•	1,8,10,11
Piping Plover	THR	•	•	•	•								
Mountain Plover	C1						•						4
Upland Sandpiper	NG1						•						4,9
Long-billed Curlew	C3						•						9
Caspian Tern	NG1		•	•	•								
Foster's Tern	NG1		•	•	•								
Black Tern	C2		•	•	•								
Yellow-billed Cuckoo	NG2					•		•	•	•	•		1,12
Burrowing Owl	NG2						•						4
Lewis' Woodpecker	NG3							•		•	•	•	1,2,7,11
Black-backed Woodpecker	NG2									•	•	•	1,8

## KEY - STATUS

ND - Federally listed as Endangered

HR - Federally listed as Threatened

G1 - Priority I Nongame Species

G2 - Priority II Nongame Species

G3 - Priority III Nongame Species

- Candidate Species for Federal listing (WGFD)

1 - USFWS Notice of Review, Category 1

2 - USFWS Notice of Review, Category 2

3 - USFWS Notice of Review, Category 3

see Supplemental Wildlife Information Status (Appendix II for definitions)

1. Coniferous forest
2. Aspen
3. Alpine grasslands
4. Basin-priarie shrublands
5. Woodland-chaparral
6. Mountain-foothills shrublands
7. Pine-juniper
8. Lodgepole pine
9. Mountain-foothills grasslands

## KEY - SPECIFIC SPECIES OR FEATURES

10. Rock outcrops/caves
11. Ponderosa pine
12. Quaking aspen
13. Swamps

LARAMIE PEAK HMP  
SPECIAL STATUS SPECIES



## SPECIAL STATUS SPECIES

Species (scientific name)	Status Refer to key below	Ponds	Rivers	Lakes	Marshes	Riparian	Open scrub	Shrub seedling	Pole sapling	Yew	Mature	Old growth	Refer to below key for specific vegetation species or other specific features
<b>BIRDS Continued</b>													
Ash-throated Flycatcher	NG3					•	•	•			•	•	4,7,11,12
Scrub Jay	NG3							•					5,7
Loggerhead Shrike	C2						•	•					4,5,7
Lee Tern	END		•	•									
Whooping Crane	END				•	•	•						
Columbian Sharp-tailed Grouse	C2					•	•	•					4,6
<b>REPTILES/AMPHIBIANS/FISH</b>													
Pallid Sturgeon	END		•										
Plains Topminnow	C2		•										
Western Boreal Toad	C2	•		•			•	•	•	•	•	•	1,8,11
Wood Frog	C2	•		•									
<b>PLANTS</b>													
Cypripedium fasciculatum	C2										•	•	1,8
Oryzopsis contracta	C2						•						4
Sphaeromeria simplex	C2						•						10

## KEY - STATUS

1D - Federally listed as Endangered

1R - Federally listed as Threatened

31 - Priority I Nongame Species

32 - Priority II Nongame Species

33 - Priority III Nongame Species

- Candidate Species for Federal Listing (WOFFD)

1 - USFWS Notice of Review, Category 1

2 - USFWS Notice of Review, Category 2

3 - USFWS Notice of Review, Category 3

• Supplemental Wildlife Information Status (Appendix II for definitions)

## KEY - SPECIFIC SPECIES OR FEATURES

1. Coniferous forest
2. Aspen
3. Alpine grasslands
4. Basin-grass shrublands
5. Woodland-chaparral
6. Mountain-foothills shrublands
7. Pine-juniper
8. Lodgepole pine
9. Mountain-foothills grasslands

10. Rock outcrops/crevices
11. Ponderosa pine
12. Quaking aspen
13. Swamps

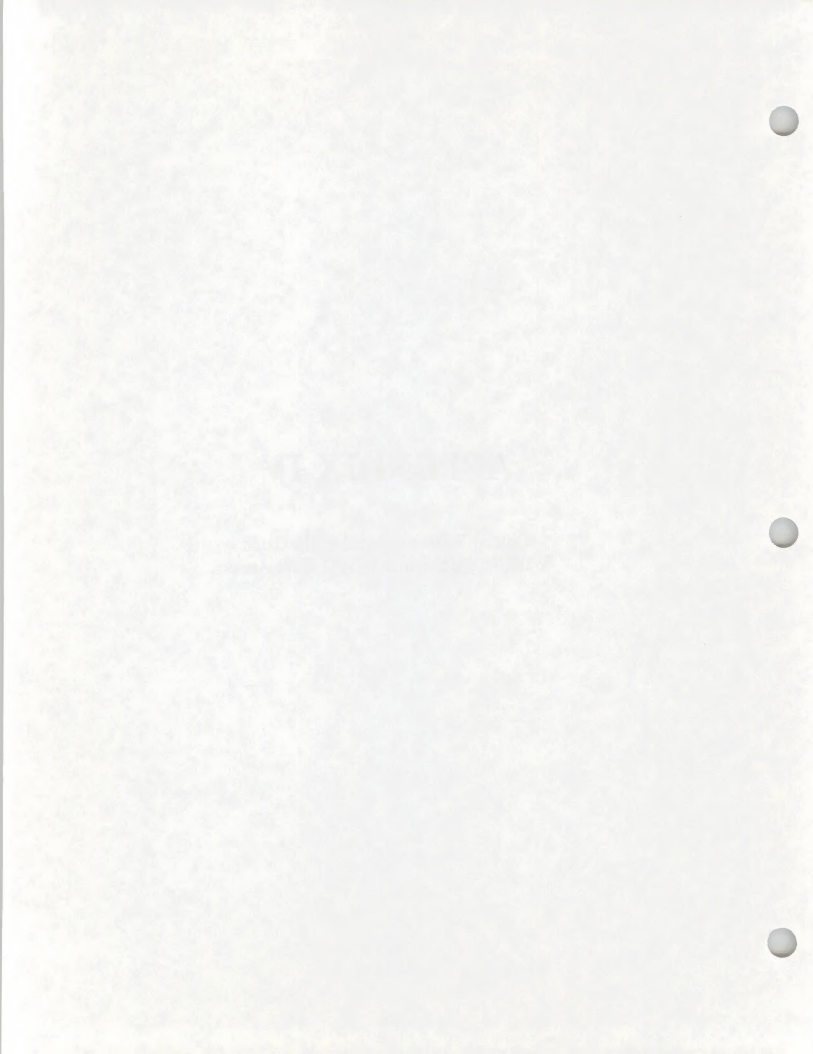
LARAMIE PEAK HMP  
SPECIAL STATUS SPECIES







## **APPENDIX IV**


**Crucial Winter Range for Big Game  
Wildlife Species and WGFD Hunt Areas**

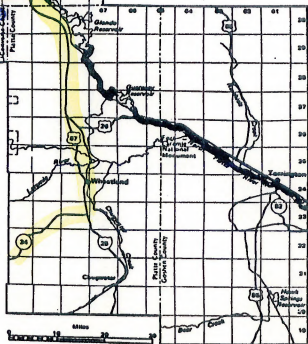
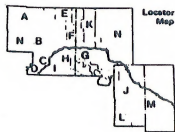


This Unit contains these public lands:

 Elk Crucial Winter Range

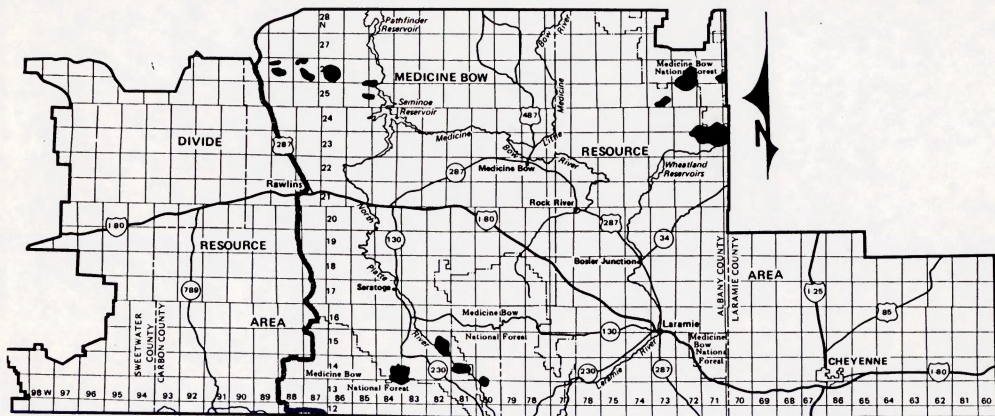
 Antelope Crucial Winter Range



 Deer Crucial Winter Range










 Crucial Winter Range  
 Historical Winter Range

**BIGHORN SHEEP CRUCIAL WINTER RANGE**  
 Medicine Bow-Divide Resource Management Plan



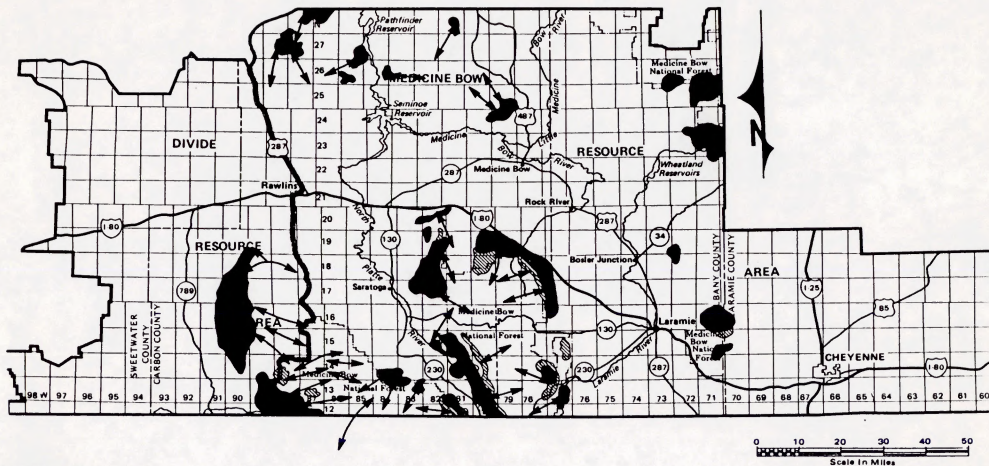
# WYOMING BIGHORN SHEEP HUNT AREAS






Note:  Wilderness area, nonresidents must have guides.







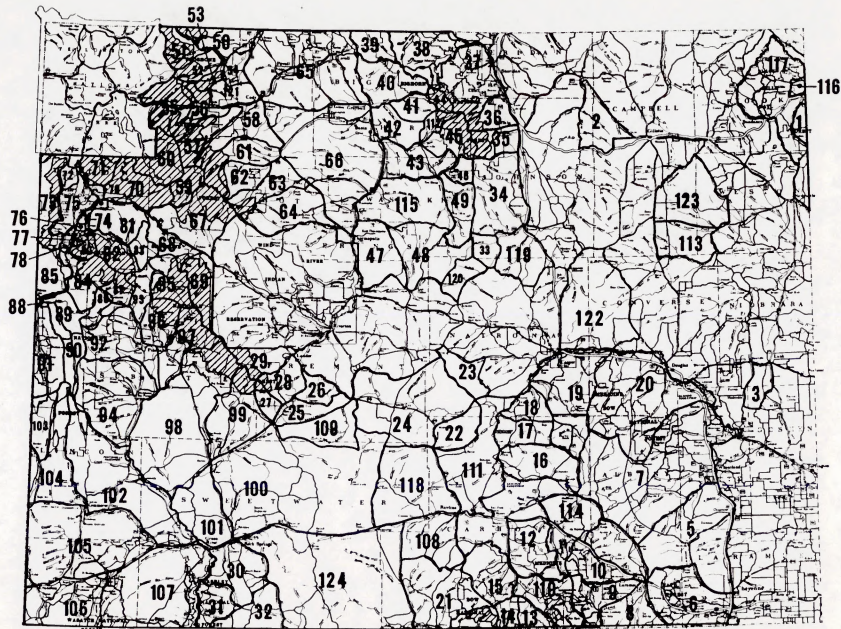
-  Crucial Winter Range
-  Calving Areas
-  Migration Routes


**ELK HABITAT**  
Medicine Bow-Divide Resource Management Plan

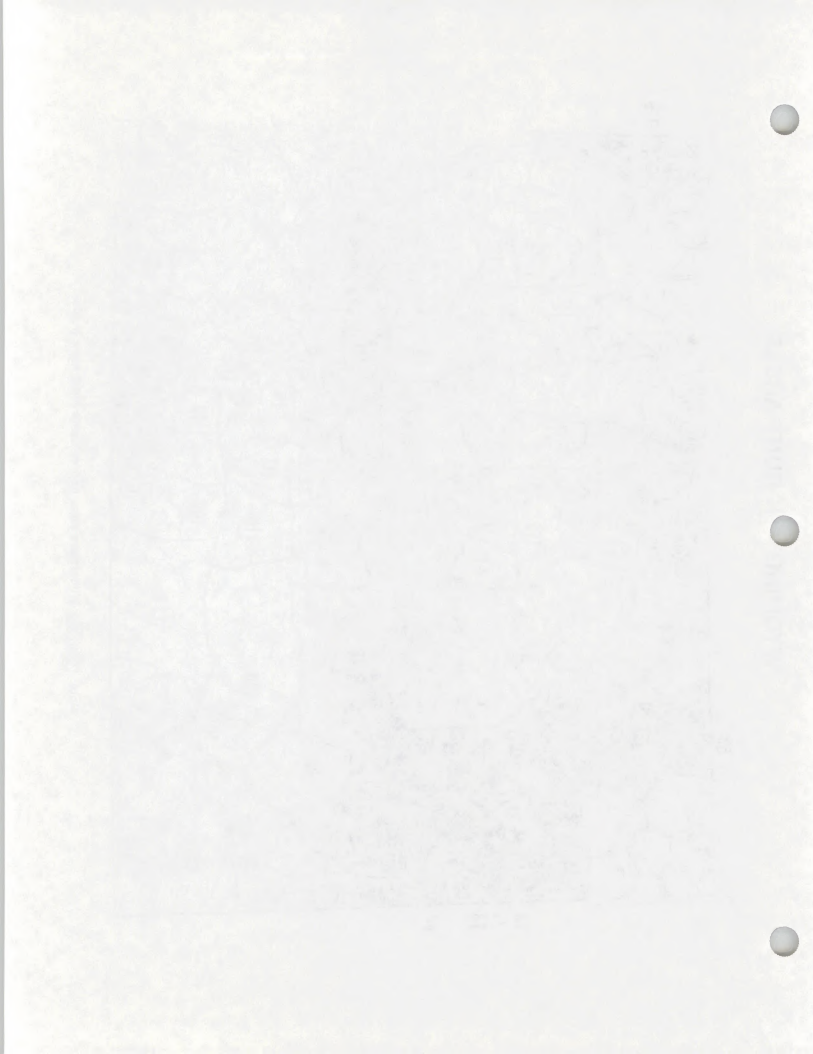


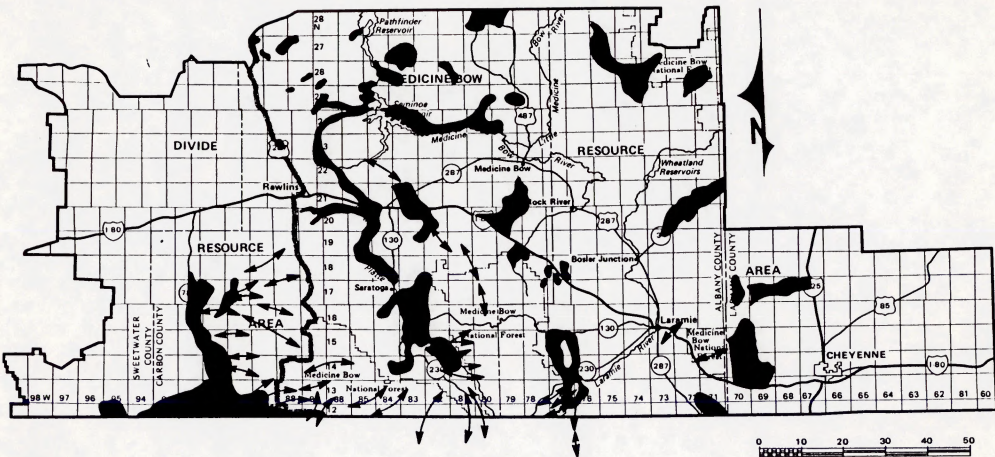


# WYOMING K HUNT AREAS



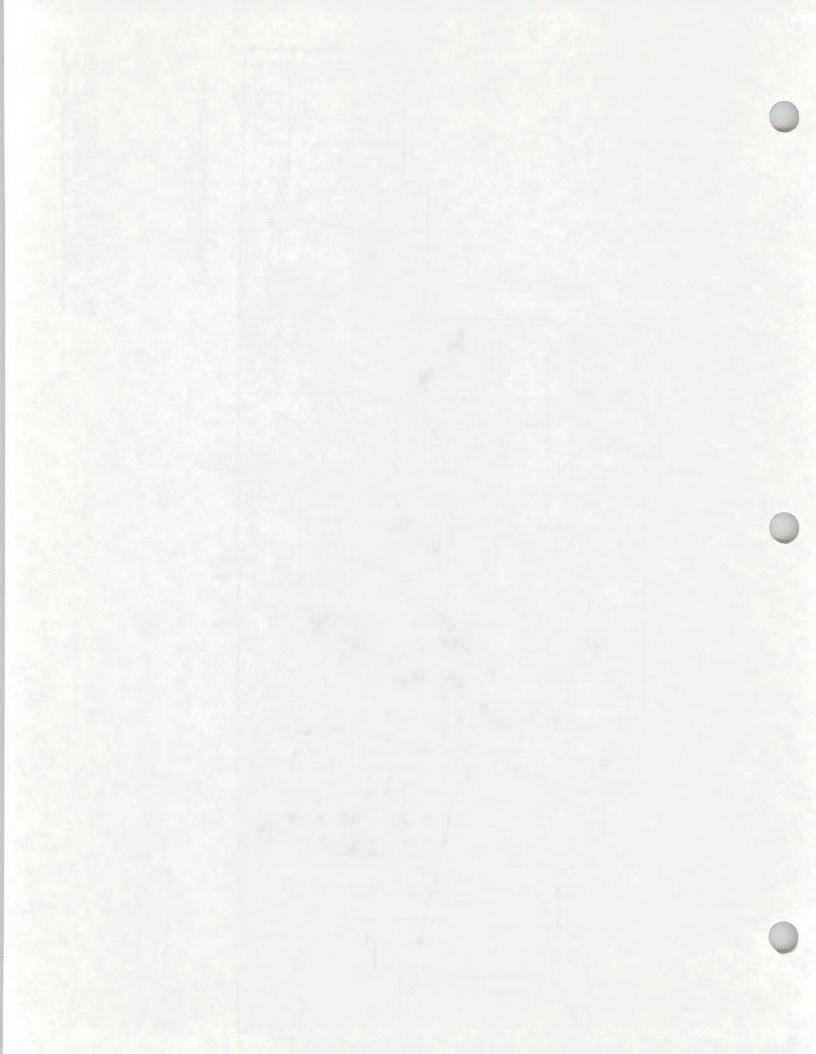
Note:  Wilderness area, nonresidents must have guides.





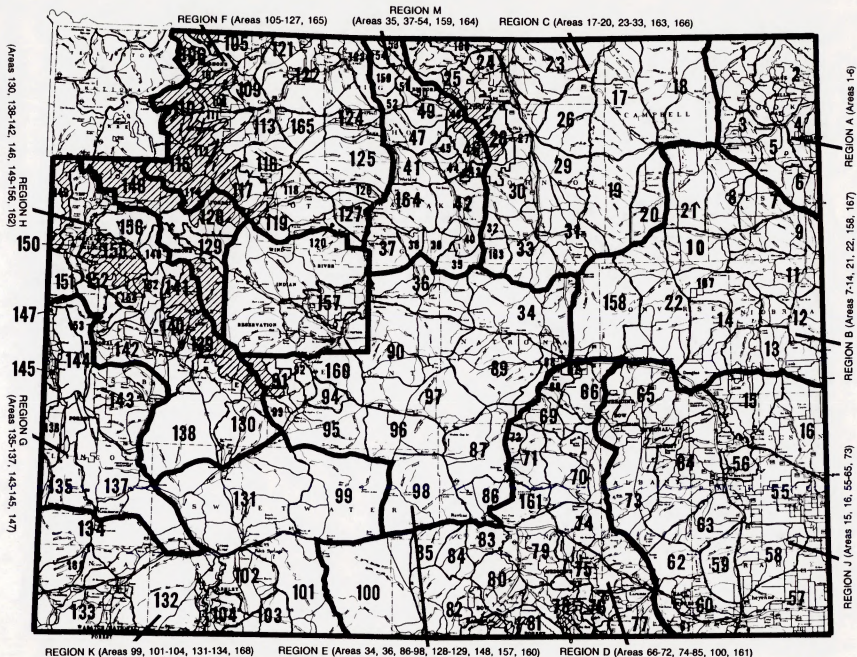
- Crucial Winter Range
- Migration Routes


**MULE DEER CRUCIAL WINTER RANGE  
AND MIGRATION ROUTES**  
Medicine Bow-Divide Resource Management Plan



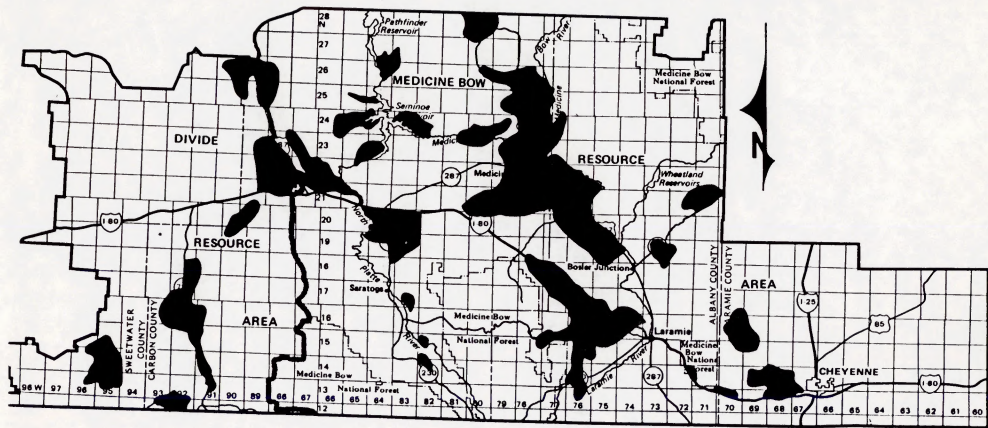



# WYOMING DEER HUNT AREAS



Note:  Wilderness area, nonresidents must have guides.





 Crucial Winter Range


**ANTELOPE CRUCIAL WINTER RANGE**  
Medicine Bow-Divide Resource Management Plan





# WYOMING ANTILOPE HUNT AREAS



Note:  Wilderness area, nonresidents must have guides.

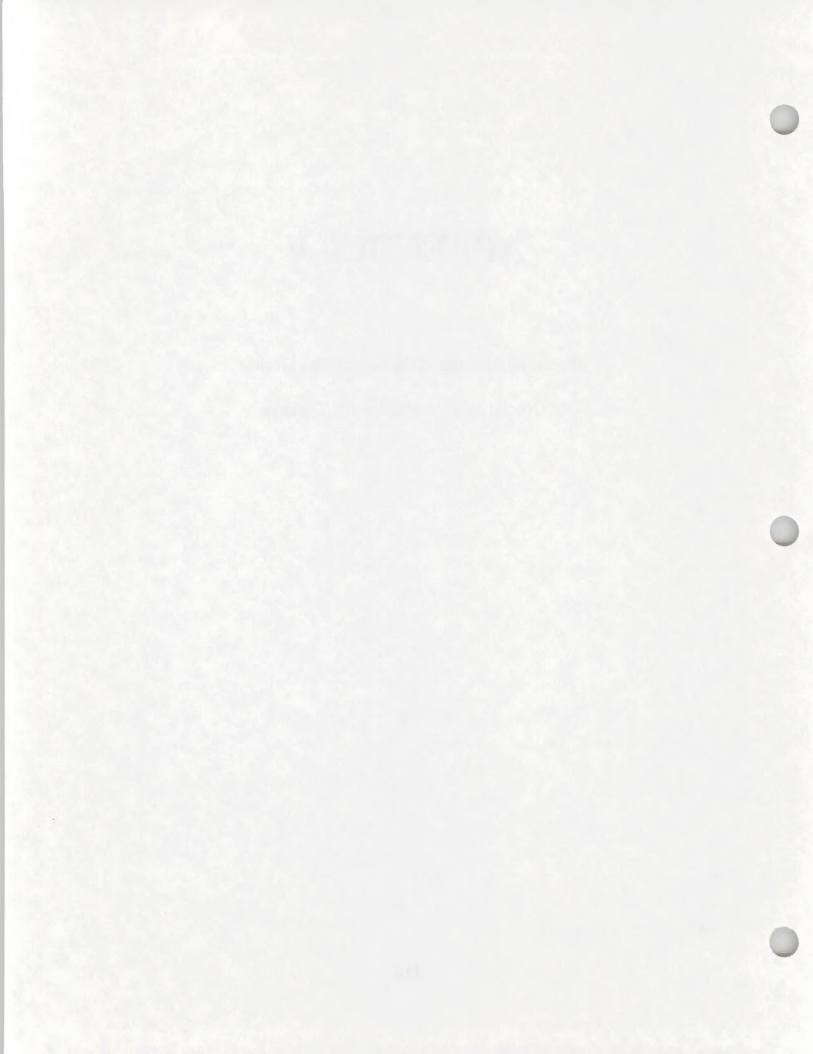




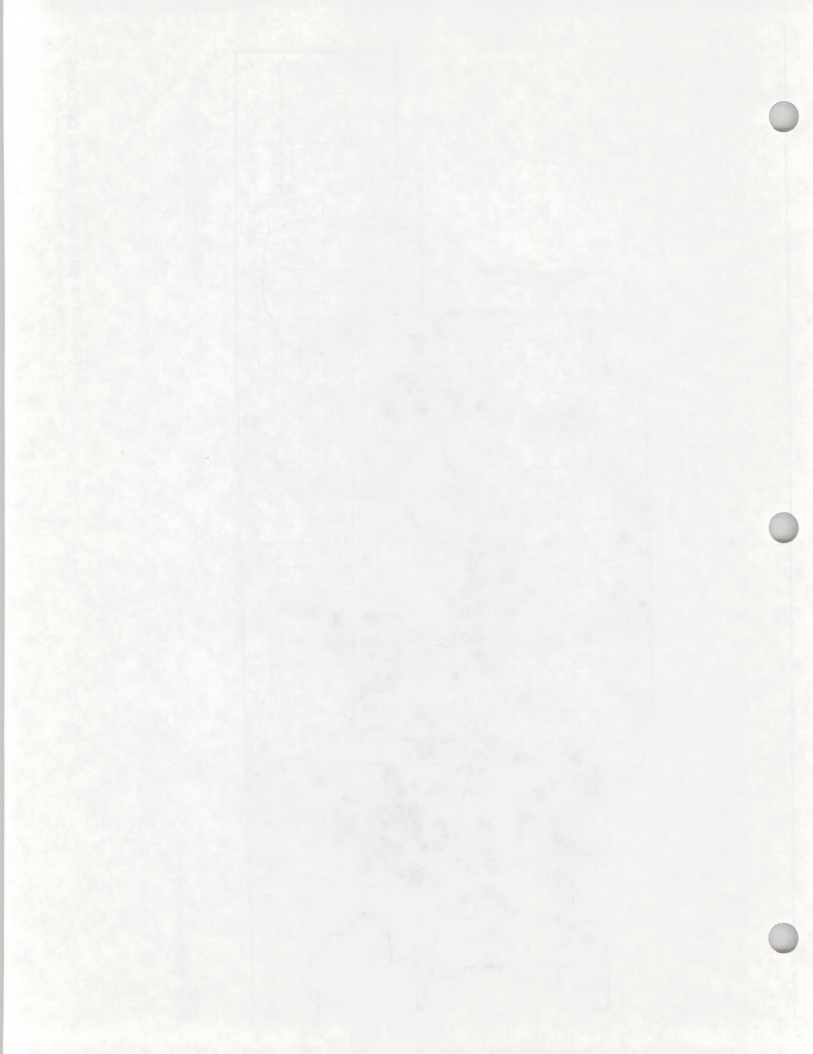
## **APPENDIX V**

**Breeding/Nesting Habitat for Sage Grouse**

**Crucial Winter Habitat for Turkeys**



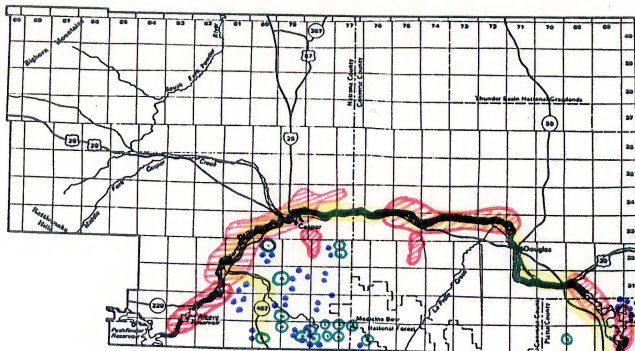










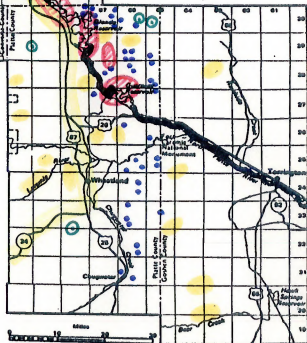
North Platte River  
Resource Management Unit

Locator  
Map



This Unit contains those public lands  
generally within 1 mile of the river.  
There are 4600 acres of BLM land.

-  Sage Grouse Strutting Grounds (2 mile radius stipulation)
-  Bald Eagle Roosts, Feeding and Perching Areas
-  Raptor Nests (golden eagle, prairie falcon, goshawk, Swainson's hawk, burrowing owl, ferruginous hawk)
-  Turkey Crucial Winter Range



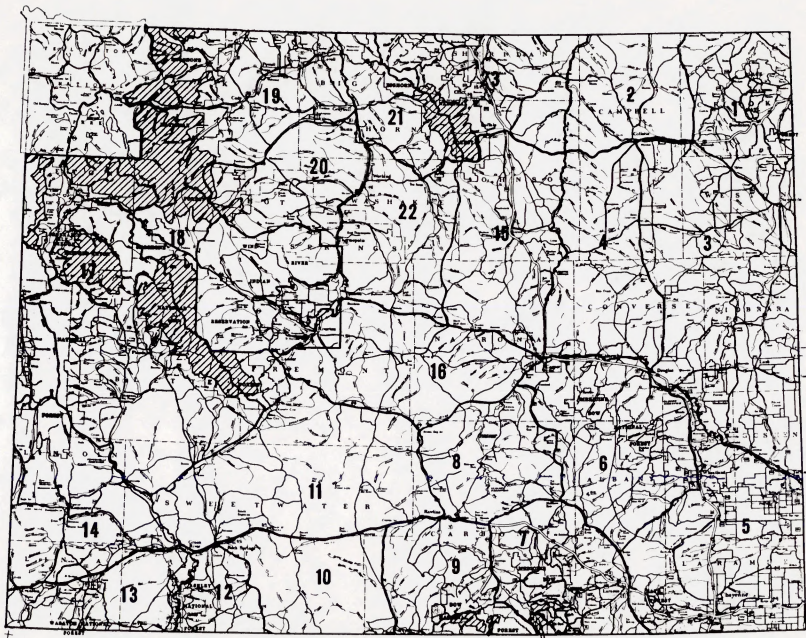



## **APPENDIX VI**

**WGFD Hunt Areas - Major Predators**



# WYOMING MOUNTAIN LION HUNT AREAS

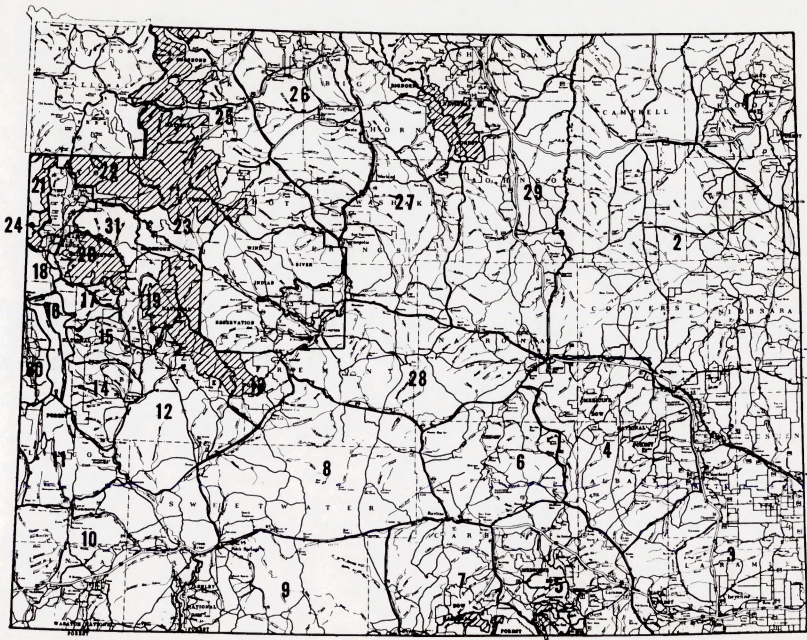



Note:  Wilderness area, nonresidents must have guides.

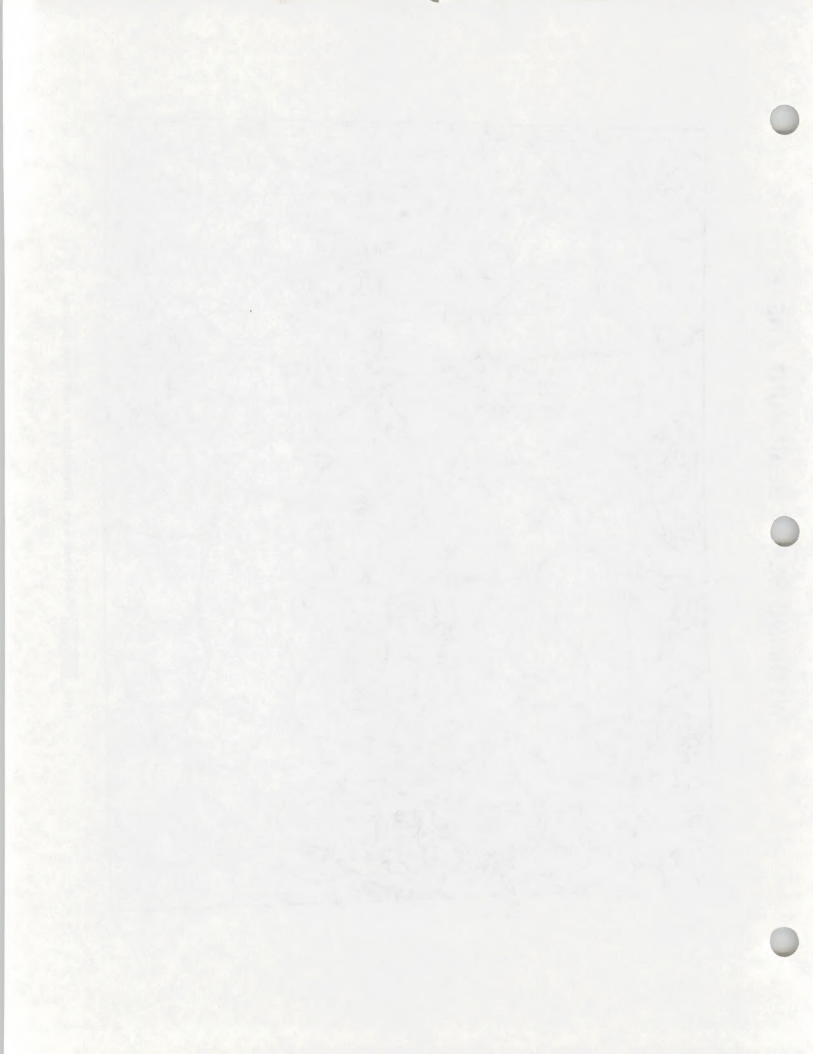




# WYOMING BLACK BEAR HUNT AREAS



Note:  Wilderness area, nonresidents must have guides.



# **APPENDIX VII**

## **General Framework of Guidance for the Bureau's (BLM) Fish and Wildlife Program**

11/2005/7111

11/2005/7111



## NATIONAL POLICIES

There are situations where the directives contained in the various laws, regulations, Departmental policies, and Executive Orders are subject to interpretation. In such cases, Bureau policies guide managers in planning and decisionmaking. The following provide a general framework of guidance for the Bureau's fish and wildlife program:

1. Recognize State management of resident species and that a State-Federal partnership is essential for species-habitat management programs. In working with the States, the BLM will continue to use its authority under the Sikes Act as one of the primary means for achieving effective coordination.
2. Forge strong and effective communications and coordination between the wildlife program and other Bureau programs, encouraging interdisciplinary teamwork in the development of resource management options that meet fish and wildlife objectives.

Initiate active cooperation with State, local, and other Federal agencies in all fac-

ets of the wildlife program. These agencies are encouraged to maximize use of available resources by providing funds, equipment or exchanging information and skills needed for fish and wildlife management.

4. Create opportunities for broad public involvement that will foster awareness, support, assistance, and participation in cooperative programs that enhance fish and wildlife habitat.
5. Actively encourage Cooperative Management Agreements with wildlife management agencies and organizations, other conservation interests, and public service groups.
6. Focus inventory, monitoring, and research efforts in areas of high wildlife values, concerns, opportunities, and where public interest or controversy exists.
7. Develop recommendations for wildlife habitat management based on analysis of ecological conditions, legal mandates, Federal goals for migratory species and federally listed threatened or endangered species, State goals for resident wildlife populations, social and economic values, and concerns of the public.
8. Maximize fish and wildlife resource opportunities through program initiatives, such as HMP's, Cooperative Management Agreements, and constructive interaction with other resource uses and activities.
9. Conduct investment analyses to ensure that all habitat improvement plans constitute the most cost-effective means of achieving stated management objectives for fish and wildlife habitat.
10. Develop incentives to encourage benefitting users, including local governments, interest groups, and individuals, to invest in fish and wildlife habitat management and enhancement.
11. Strengthen and improve the professional, technical, interdisciplinary, and managerial skills of Bureau fish and wildlife personnel to enhance their performance and increase job satisfaction.
12. Acquire land for fish and wildlife purposes only when other means of achieving program goals and objectives are not appropriate, available, or effective, giving full consideration to exchanges or other alternatives.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in financial matters. The text suggests that organizations should implement robust systems to track every aspect of their operations, from procurement to sales, to ensure that all data is reliable and accessible.

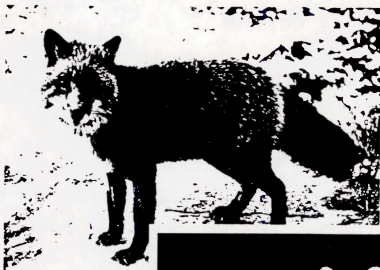
2. The second section focuses on the role of technology in modern business operations. It highlights how digital tools and software can streamline processes, reduce errors, and improve overall efficiency. The author argues that embracing technology is not just a competitive advantage but a necessity for staying relevant in today's fast-paced market. Examples of various software solutions and their benefits are provided to illustrate this point.

3. The third part of the document addresses the challenges of managing a diverse workforce. It discusses the importance of effective communication and collaboration across different departments and cultures. The text offers practical advice on how to foster a positive work environment, encourage innovation, and resolve conflicts. It also touches upon the need for continuous training and development to keep the workforce up-to-date with the latest industry trends.

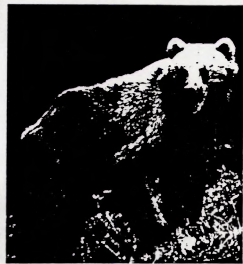
4. The final section discusses the importance of strategic planning and vision. It argues that organizations must have a clear long-term goal and a roadmap to achieve it. This involves regular assessment of the current market conditions and the organization's internal capabilities. The text provides a framework for developing a strategic plan, including identifying key areas for growth and potential risks. It concludes by emphasizing that a well-defined strategy is the foundation for sustainable success.

13. The protection, enhancement, and recovery of T/E species will receive priority consideration in all Bureau activities.

14. Maintain and rehabilitate existing habitat management facilities to provide maximum public benefit and to protect prior investments.



*Fish and wildlife is an important part of our nation's heritage. You can be a part of helping manage and safeguard this heritage for future generations. For information call your nearest BLM office.*





## **APPENDIX VIII**

### **BLM Standard Mitigation Guidelines for Surface-Disturbing Activities**





lines have been written in a format that will allow for (1) their direct use as stipulations, and (2) the addition of specific or specialized mitigation following the submission of a detailed plan of development or other project proposal, and an environmental analysis.

Those resource activities or programs currently without a standardized set of permit or operation stipulations can use the mitigation guidelines as stipulations or as conditions of approval, or as a baseline for developing specific stipulations for a given activity or program.

Because use of the mitigation guidelines was integrated into the RMP/EIS process and will be integrated into the site-specific environmental analysis process, the application of stipulations or mitigation requirements derived through the guidelines will provide more consistency with planning decisions and plan implementation than has occurred in the past. Application of the standard mitigation guidelines to all surface and other human presence disturbance activities concerning BLM-administered public lands and resources will provide more uniformity in mitigation than has occurred in the past.

## STANDARD MITIGATION GUIDELINES

### 1. Surface Disturbance Mitigation Guideline

Surface disturbance will be prohibited in any of the following areas or conditions. Exception, waiver, or modification of this limitation may be approved in writing, including documented supporting analysis, by the Authorized Officer.

- a. Slopes in excess of 25 percent.
- b. Within important scenic areas (Class I and II Visual Resource Management Areas).
- c. Within 500 feet of surface water and/or riparian areas.
- d. Within either one-quarter mile or the visual horizon (whichever is closer) of historic trails.
- e. Construction with frozen material or during periods when the soil material is saturated or when watershed damage is likely to occur.

#### Guidance

The intent of the **SURFACE DISTURBANCE MITIGATION GUIDELINE** is to inform interested parties

(potential lessees, permittees, or operators) that when one or more of the five (1a through 1e) conditions exist, surface-disturbing activities will be prohibited unless or until a permittee or his designated representative and the surface management agency (SMA) arrive at an acceptable plan for mitigation of anticipated impacts. This negotiation will occur prior to development.

Specific criteria (e.g., 500 feet from water) have been established based upon the best information available. However, such items as geographical areas and seasons must be delineated at the field level.

Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of proposals (e.g., activity plans, plans of development, plans of operation, applications for permit to drill) and, if necessary, must allow for other mitigation to be applied on a site-specific basis.

### 2. Wildlife Mitigation Guideline

- a. To protect important big game winter habitat, activities or surface use will not be allowed from November 15 to April 30 within certain areas encompassed by the authorization. The same criteria apply to defined big game birthing areas from May 1 to June 30.

Application of this limitation to operation and maintenance of a developed project must be based on environmental analysis of the operational or production aspects.

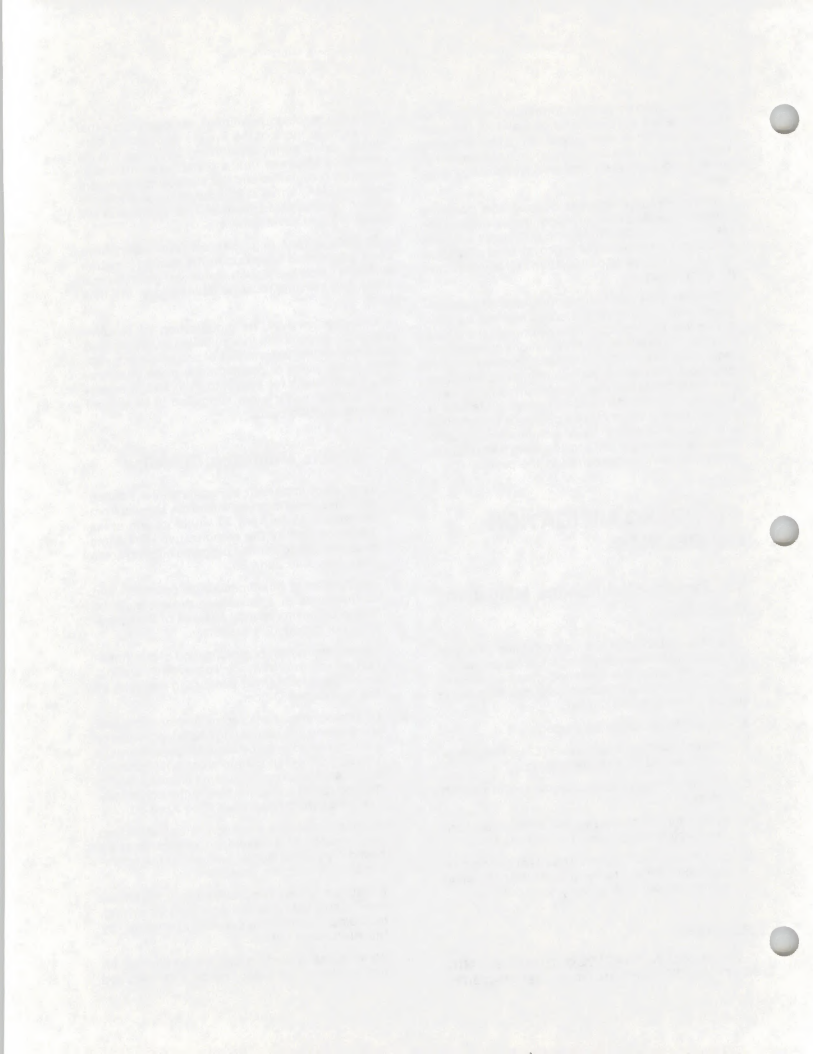
Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

- b. To protect important raptor and/or sage and sharp-tailed grouse nesting habitat, activities or surface use will not be allowed from February 1 to July 31 within certain areas encompassed by the authorization. The same criteria apply to defined raptor and game bird winter concentration areas from November 15 to April 30.

Application of this limitation to operation and maintenance of a developed project must be based on environmental analysis of the operational or production aspects.

Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

- c. No activities or surface use will be allowed on that portion of the authorization area identified



within (*legal description*) for the purpose of protecting (e.g., sage/sharp-tailed grouse breeding grounds, and/or other species/activities) habitat.

Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

- d. Portions of the authorized use area legally described as (*legal description*), are known or suspected to be essential habitat for (*name*) which is a threatened or endangered species. Prior to conducting any onsite activities, the lessee/permittee will be required to conduct inventories or studies in accordance with BLM and U.S. Fish and Wildlife Service guidelines to verify the presence or absence of this species. In the event that (*name*) occurrence is identified, the lessee/permittee will be required to modify operational plans to include the protection requirements of this species and its habitat (e.g., seasonal use restrictions, occupancy limitations, facility design modifications).

## Guidance

The WILDLIFE MITIGATION GUIDELINE is intended to provide two basic types of protection: seasonal restriction (2a and 2b) and prohibition of activities or surface use (2c). Item 2d is specific to situations involving threatened or endangered species. Legal descriptions will ultimately be required and should be measurable and legally definable. There are no minimum subdivision requirements at this time. The area delineated can and should be defined as necessary, based upon current biological data, prior to the time of processing an application and issuing the use authorization. The legal description must eventually become a part of the condition for approval of the permit, plan of development, and/or other use authorization.

The seasonal restriction section identifies three example groups of species and delineates three similar time frame restrictions. The big game species including elk, moose, deer, antelope, and bighorn sheep, all require protection of crucial winter range between November 15 and April 30. Elk and bighorn sheep also require protection from disturbance from May 1, to June 30, when they typically occupy distinct calving and lambing areas. Raptors include eagles, accipiters, falcons (peregrine, prairie, and merlin), buteos (ferruginous and Swainson's hawks), osprey, and burrowing owls. The raptors and sage and sharp-tailed grouse require nesting protection between February 1 and July 31. The same birds often require protection from disturbance from November 15 through April 30 while they occupy winter concentration areas.

Item 2c, the prohibition of activity or surface use, is intended for protection of specific wildlife habitat areas or values within the use area that cannot be protected by using seasonal restrictions. These areas or values must be factors that limit life-cycle activities (e.g., sage grouse strutting grounds, known threatened and endangered species habitat).

Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of proposals (e.g., activity plans, plans of development, plans of operation, applications for permit to drill) and, if necessary, must allow for other mitigation to be applied on a site-specific basis.

## 3. Cultural Resource Mitigation Guideline

When a proposed discretionary land use has potential for affecting the characteristics which qualify a cultural property for the National Register of Historic Places (National Register), mitigation will be considered. In accordance with Section 106 of the Historic Preservation Act, procedures specified in 36 CFR 800 will be used in consultation with the Wyoming State Historic Preservation Officer and the Advisory Council on Historic Preservation in arriving at determinations regarding the need and type of mitigation to be required.

## Guidance

The preferred strategy for treating potential adverse effects on cultural properties is "avoidance." If avoidance involves project relocation, the new project area may also require cultural resource inventory. If avoidance is imprudent or unfeasible, appropriate mitigation may include excavation (data recovery), stabilization, monitoring, protection barriers and signs, or other physical and administrative measures.

Reports documenting results of cultural resource inventory, evaluation, and the establishment of mitigation alternatives (if necessary) shall be written according to standards contained in BLM Manuals, the cultural resource permit stipulations, and in other policy issued by the BLM. These reports must provide sufficient information for Section 106 consultation. Reports shall be reviewed for adequacy by the appropriate BLM cultural resource specialist. If cultural properties on, or eligible for, the National Register are located within these areas of potential impact and cannot be avoided, the Authorized Officer shall begin the Section 106 consultation process in accordance with the procedures contained in 36 CFR 800.





Mitigation measures shall be implemented according to the mitigation plan approved by the BLM Authorized Officer. Such plans are usually prepared by the land use applicant according to BLM specifications. Mitigation plans will be reviewed as part of Section 106 consultation for National Register eligible or listed properties. The extent and nature of recommended mitigation shall be commensurate with the significance of the cultural resource involved and the anticipated extent of damage. Reasonable costs for mitigation will be borne by the land use applicant. Mitigation must be cost effective and realistic. It must consider project requirements and limitations, input from concerned parties, and be BLM approved or BLM formulated.

Mitigation of paleontological and natural history sites will be treated on a case-by-case basis. Factors such as site significance, economics, safety, and project urgency must be taken into account when making a decision to mitigate. Authority to protect (through mitigation) such values is provided for in FLPMA, Section 102(a)(8). When avoidance is not possible, appropriate mitigation may include excavation (data recovery), stabilization, monitoring, protection barriers and signs, or other physical and administrative protection measures.

#### 4. Special Resource Mitigation Guideline

To protect (resource value), activities or surface use will not be allowed (i.e., within a specific distance of the resource value or between date to date) in (legal description).

Application of this limitation to operation and maintenance of a developed project must be based on environmental analysis of the operational or production aspects.

Exception, waiver, or modification of this limitation in any year may be approved in writing, including documented supporting analysis, by the Authorized Officer.

**Example Resource Categories** (Select or identify category and specific resource value):

- a. Recreation areas.
- b. Special natural history or paleontological features.
- c. Special management areas.
- d. Sections of major rivers.
- e. Prior existing rights-of-way.
- f. Occupied dwellings.
- g. Other (specify).

#### Guidance

The **SPECIAL RESOURCE MITIGATION GUIDELINE** is intended for use only in site-specific situations where one of the first three general mitigation guidelines will not adequately address the concern. The resource value, location, and specific restrictions must be clearly identified. A detailed plan addressing specific mitigation and special restrictions will be required prior to disturbance or development and will become a condition for approval of the permit, plan of development, or other use authorization.

Exception, waiver, or modification of requirements developed from this guideline must be based upon environmental analysis of proposals (e.g., activity plans, plans of development, plans of operation, applications for permit to drill) and, if necessary, must allow for other mitigation to be applied on a site-specific basis.

#### 5. No Surface Occupancy Guideline

No Surface Occupancy will be allowed on the following described lands (legal description) because of (resource value).

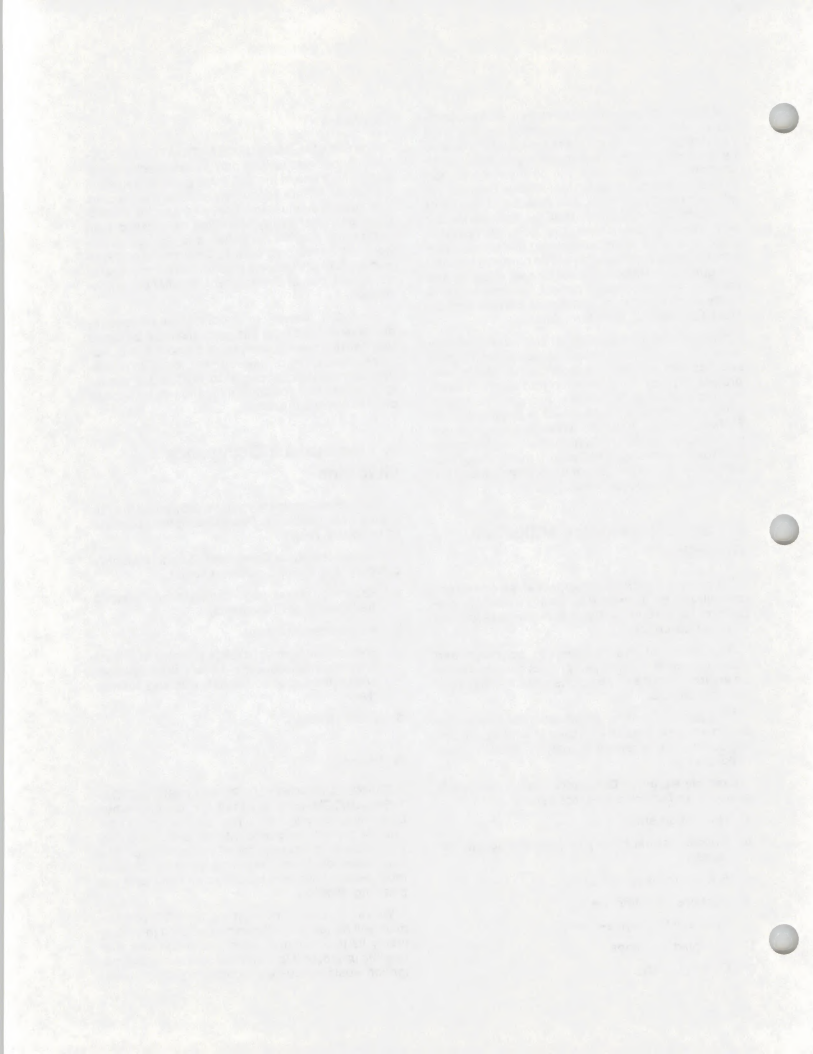
**Example Resource Categories** (Select or identify category and specific resource value):

- a. Recreation Areas (e.g., campgrounds, historic trails, national monuments).
- b. Major reservoirs/dams.
- c. Special management area (e.g., areas of critical environmental concern, known threatened or endangered species habitat, wild and scenic rivers).
- d. Other (specify).

#### Guidance

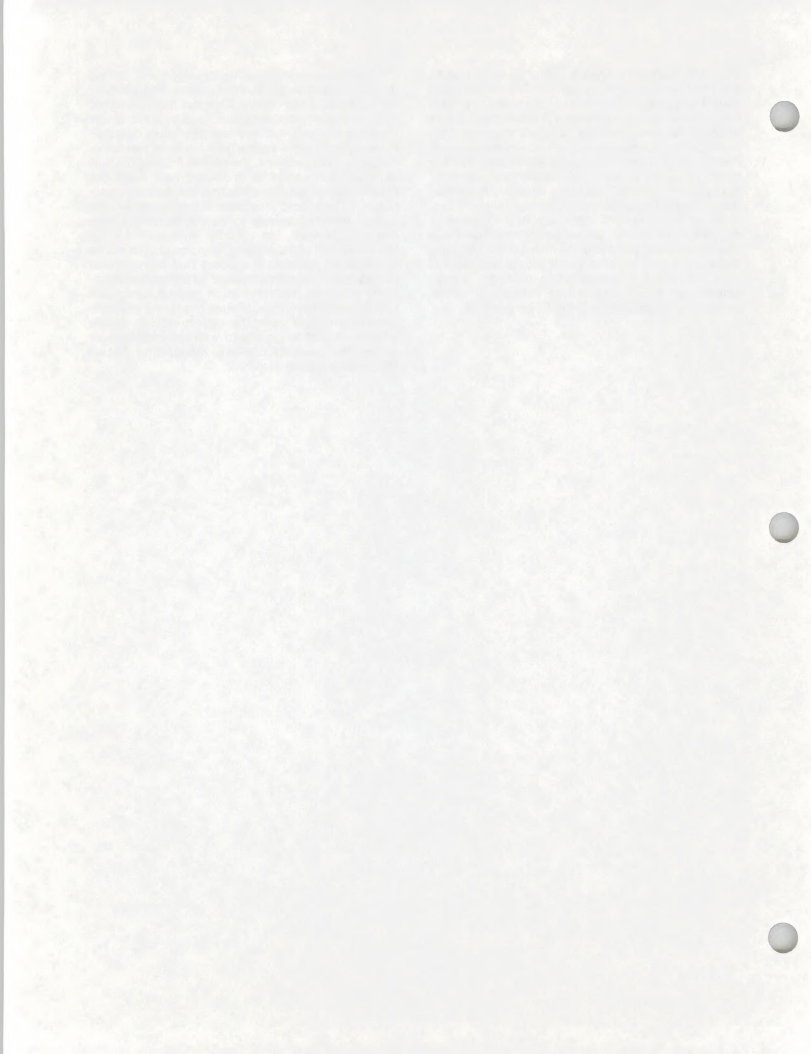
The **NO SURFACE OCCUPANCY (NSO) MITIGATION GUIDELINE** is intended for use only when other mitigation is determined insufficient to adequately protect the public interest and is the only alternative to "no development" or "no leasing." The legal description and resource value of concern must be identified and be tied to an NSO land use planning decision.

Waiver of, or exception(s) to, the NSO requirement will be subject to the same test used to initially justify its imposition. If, upon evaluation of a site-specific proposal, it is found that less restrictive mitigation would adequately protect the public interest



or value of concern, then a waiver or exception to the NSO requirement is possible. The record must show that because conditions or uses have changed, less restrictive requirements will protect the public interest. An environmental analysis must be conducted and documented (e.g., environmental assessment, environmental impact statement, etc., as necessary) in order to provide the basis for a waiver or exception to an NSO planning decision. Modification of the NSO requirement will pertain only to refinement or correction of the location(s) to which it applied. If the waiver, exception, or modification is found to be consistent with the intent of the planning decision, it may be granted. If found inconsistent with the intent of the planning decision, a plan amendment would be required before the waiver, exception, or modification could be granted.

When considering the "no development" or "no leasing" option, a rigorous test must be met and fully documented in the record. This test must be based upon stringent standards described in the land use planning document. Since rejection of all development rights is more severe than the most restrictive mitigation requirement, the record must show that consideration was given to development subject to reasonable mitigation, including "no surface occupancy." The record must also show that other mitigation was determined to be insufficient to adequately protect the public interest. A "no development" or "no leasing" decision should not be made solely because it appears that conventional methods of development would be unfeasible, especially where an NSO restriction may be acceptable to a potential permittee. In such cases, the potential permittee should have the opportunity to decide whether or not to go ahead with the proposal (or accept the use authorization), recognizing that an NSO restriction is involved.





# WYOMING BUREAU OF LAND MANAGEMENT (BLM) STANDARD MITIGATION GUIDELINES FOR SURFACE-DISTURBING ACTIVITIES

## INTRODUCTION

The "Wyoming BLM Standard Oil and Gas Lease Stipulations" were developed in 1986. During their implementation, it was recognized that various land uses, other than those related to oil and gas exploration and development, should be subject to similar kinds of environmental protection requirements. Using the Wyoming BLM standard oil and gas lease stipulations as a basis, development of the "Wyoming BLM Standard Mitigation Measures for Surface-Disturbing Activities" began.

The term "guidelines" better describes the intent and use of these mitigation standards than the terms "stipulations" or "measures." These guidelines are primarily for the purpose of attaining statewide consistency in how requirements are determined for avoiding and mitigating environmental impacts and resource and land use conflicts. Consistency in this sense does not mean that identical requirements would be applied for all similar types of land use activities that may cause similar types of impacts. Nor does it mean that the requirements or guidelines for a single land use activity would be identical in all areas.

There are two ways the standard mitigation guidelines are used in the resource management plan/environmental impact statement (RMP/EIS) process: (1) as part of the planning criteria in developing the RMP alternatives, and (2) in the analytical processes of both developing the alternatives and analyzing the impacts of the alternatives. In the first case, an assumption is made that any one or more of the standard mitigations will be appropriately included as conditions of relevant actions being proposed or considered in each alternative. In the second case, the standard mitigations are used (1) to develop a baseline for measuring and comparing impacts among the alternatives; (2) to identify other actions and alternatives that should be considered, and (3) to help determine whether more stringent or less stringent mitigations should be considered.

Some of the seasonal restrictions in the standard oil and gas lease stipulations contain the statement, "This limitation does not apply to maintenance and operation of producing wells." This statement was included because the stipulations were developed specifically for application to oil and gas leases at

the time of issuance, not for activities associated with producing wells. At lease issuance, the only action that can be generally contemplated is the possibility that exploratory drilling may occur somewhere on the lease area. Unfortunately, the provision has been interpreted by some people to mean that the seasonal restriction disappears at the operational stage (i.e., if a producing well is attained). It must be understood that at both the oil and gas exploration stage and the operation or development stages, additional site-specific environmental analyses are conducted and any needed restrictions or mitigations identified become part of the operational or development plan. For example, wells may continue to produce, but related activity may be limited. Thus, it is possible for such seasonal restrictions to continue in effect and be applicable to maintenance and operation of producing wells, if supported by the environmental analyses.

The RMP/EIS does not decide or dictate the exact wording or inclusion of these guidelines. Rather, the standard guidelines are used in the RMP/EIS process as a tool to help develop the RMP alternatives and to provide a baseline for comparative impact analysis in arriving at RMP decisions. These guidelines will be used in the same manner in analyzing activity plans and other site-specific proposals. These guidelines and their wording are matters of policy. As such, specific wording is subject to change primarily through administrative review, not through the RMP/EIS process. Any further changes that may be made in the continuing refinement of these guidelines and any development of program-specific standard stipulations will be handled in another forum, including appropriate public involvement and input.

## PURPOSE

The purposes of the "Standard Mitigation Guidelines" are (1) to reserve, for the BLM, the right to modify the operations of all surface and other human presence disturbance activities as part of the statutory requirements for environmental protection, and (2) to inform a potential lessee, permittee, or operator of the requirements that must be met when using BLM-administered public lands. These guide-





# **APPENDIX IX**

**Legislative and Executive Direction for the  
Bureau's Wildlife Program**

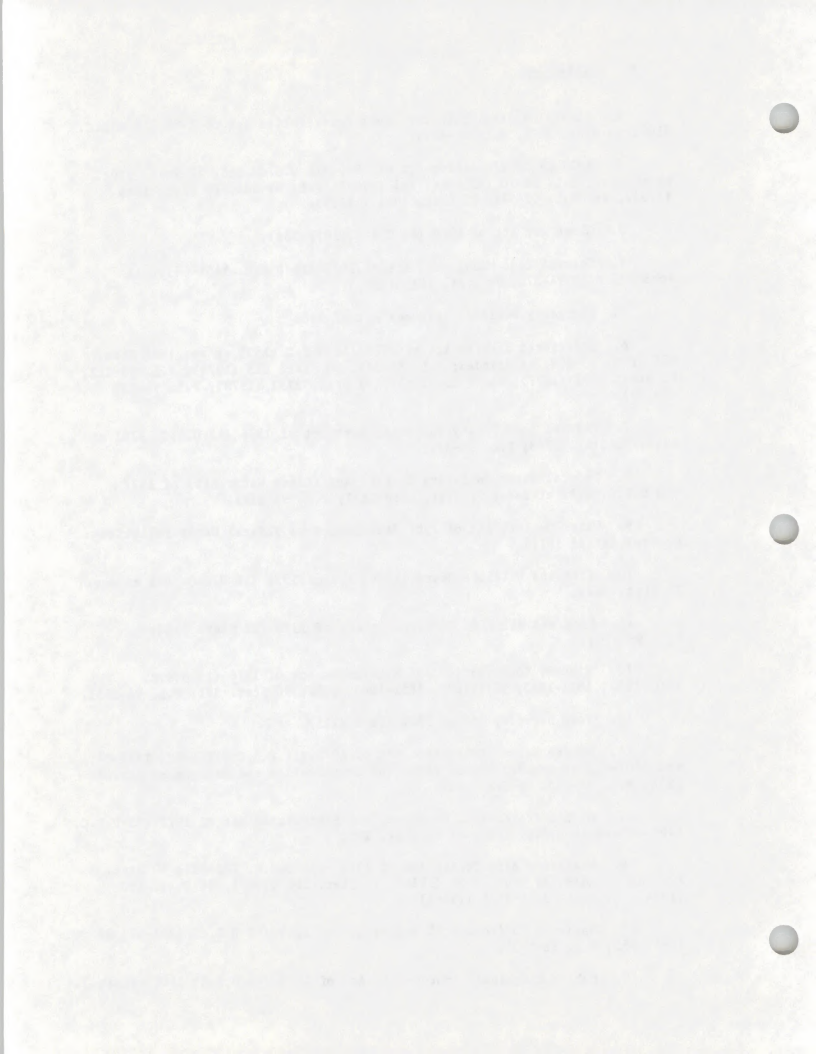
**Authority to implement HMPs**



APPENDIX IX

A. Legislation

1. Alaska National Interest Lands Conservation Act of 1980 (16 U.S.C. 3101, 94 Stat. 2371, P.L. 96-487).
2. Bald Eagle Protection Act of 1940 (16 U.S.C. 668; 54 Stat. 250; as amended, P.L. 86-70, 73 Stat. 143 (1959), P.L. 87-884, 76 Stat. 1246 (1962), and P.L. 92-535, 86 Stat. 1064 (1972)).
3. Clean Air Act of 1970 (42 U.S.C. 1857-58a).
4. Coastal Zone Management Act of 1972 (16 U.S.C. 1451-64). As amended, P.L. 94-370, 90 Stat. 1013 (1976).
5. Emergency Wetlands Resource Act of 1986
6. Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.; 87 Stat. 884; P.L. 93-205, as amended; P.L. 94-359, 90 Stat. 913 (1974); P.L. 95-212, 91 Stat. 1493 (1977); and P.L. 95-632, 92 Stat. 3751 (1978); P.L. 96-159 (1979)).
7. Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.; 90 Stat. 2743; P.L. 94-579).
8. Federal Water Pollution Control Act (Clean Water Act) of 1977 (33 U.S.C. 1251 et seq.; 91 Stat. 1566-1611; P.L. 95-217).
9. Water Quality Act of 1987 (Amendments to Federal Water Pollution Control Act of 1977).
10. Fish and Wildlife Coordination Act of 1958 (16 U.S.C. 661 et seq.; 72 Stat. 563).
11. Fish and Wildlife Improvement Act of 1978 (92 Stat. 3110; P.L. 95-616).
12. Fishery Conservation and Management Act of 1976 (16 U.S.C. 1801-1802, 1811-1813, 1821-1825, 1851-1862, 1882; 90 Stat. 331; P.L. 94-265).
13. Food Security Act of 1985 (Farm Bill).
14. Marine Mammal Protection Act of 1972 (16 U.S.C. 1361-62, 1371-84, and 1401-07, as amended by the Fisheries Conservation and Management Act of 1976, P.L. 94-265, 90 Stat. 331).
15. Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1401-44 and 16 U.S.C. 1431-34; 86 Stat. 1052).
16. Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-711; 40 Stat. 775, as amended, 49 Stat. 1556 (1936), 74 Stat. 866 (1960), 88 Stat. 190 (1974), 92 Stat. 3111-3112 (1978)).
17. National Environmental Policy Act of 1969 (42 U.S.C. 4321-47; 83 Stat. 852; P.L. 91-190).
18. Public Rangelands Improvement Act of 1978 (43 U.S.C. 1901 et seq.).





19. Sikes Act of 1960 (16 U.S.C. 670a-f; 74 Stat. 1052, as amended, P.L. 93-452 and 88 Stat. 1369 (1974), P.L. 95-420, and 92 Stat. 921 (1978)).

20. Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. 1201 et seq.; P.L. 95-87).

21. Taylor Grazing Act of 1934 (as amended, 43 U.S.C. 315; 48 Stat. 1269 (1970)).

22. Joint Resolution Regarding Tule Elk, January 1986 (16 U.S.C. 673; 90 Stat. 1189).

22. Wild Free-Roaming Horse and Burro Act of 1971 (16 U.S.C. 1331-40, 85 Stat. 649).

B. Executive Orders (EO's).

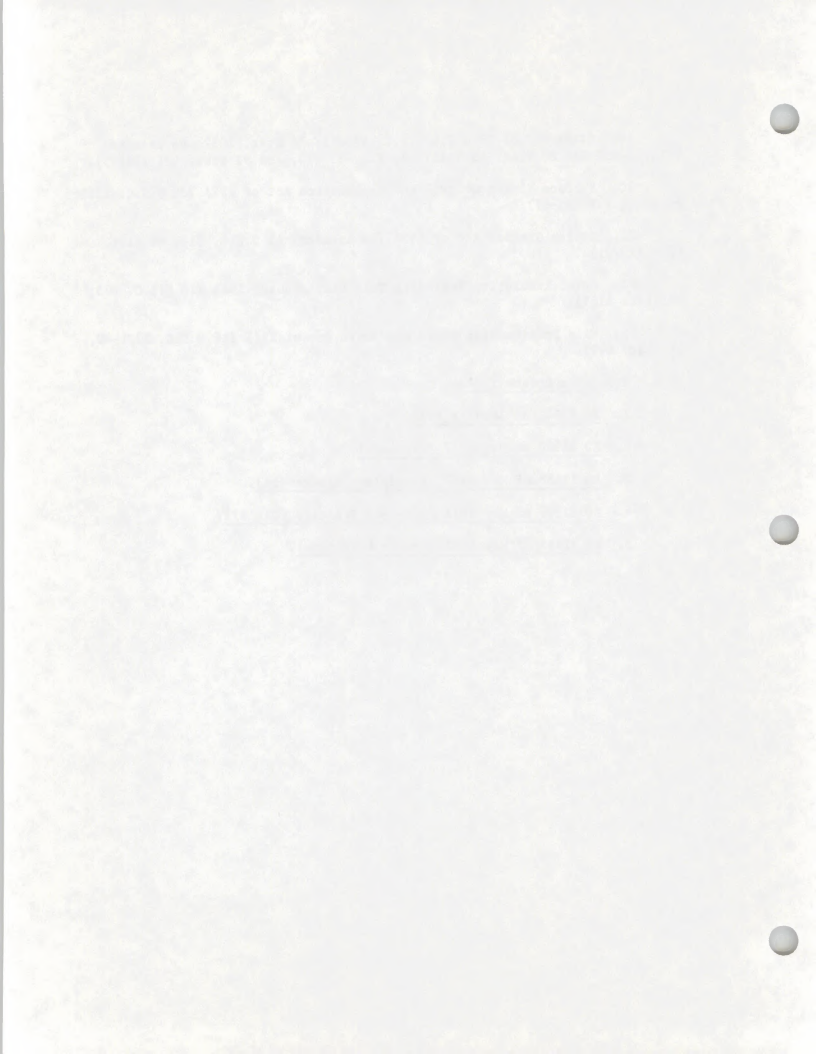
1. EO 12342 of January 1982.

2. EO 11990 of May 1977 (Wetlands).

3. EO 11988 of May 1977 (Floodplain Management).

4. EO 11989 of May 1977 (Off-Road Vehicles (ORV's)).

5. EO 11987 of May 1977 (Exotic Organisms).



A. Legislation.

1. Alaska National Interest Lands Conservation Act of 1980 (16 U.S.C. 3101; 94 Stat. 2371; P.L. 96-487).

a. Establishes National Conservation and National Recreation Areas in Alaska and provides for conservation and preservation of fish and wildlife and other values in these and other areas.

b. Title VIII of the Act requires that the opportunity for continued use of subsistence resources on public lands be provided. Cooperation, studies, and reports to Congress specific to subsistence are required.

c. Specific requirements for research on fish and wildlife and subsistence uses on public lands are identified in Section 812. Specific data requirements, addressing subsistence resources, for reports to Congress are identified in Section 813. Provides strong direction to actively manage fish and wildlife resources to provide for subsistence and other uses.

2. Bald Eagle Protection Act of 1940 (16 U.S.C. 668; 54 Stat. 250; as amended, P.L. 86-70, 73 Stat. 143 (1959), P.L. 87-884, 76 Stat. 1246 (1962), and P.L. 92-535, 86 Stat. 1064 (1972)).

a. Provides for the cancellation of leases, licenses, permits, or other agreements authorizing livestock grazing on Federal lands of persons convicted of violating the Act or any implementing regulation or permit.

b. Establishes penalties for taking, possessing, selling, purchasing, bartering, and certain other actions pertaining to bald and golden eagles. (The term "take" within the Act includes pursue, shoot, shoot at, wound, kill, capture, trap, collect, or otherwise willfully molest or disturb.)

3. Clean Air Act of 1970 (42 U.S.C. 1857-58a). Establishes a mechanism for control of air pollution through the maintenance of air quality standards for public health and welfare. As defined in the Act, public welfare includes wildlife, soils, water, crops, vegetation, and other components.

4. Coastal Zone Management Act of 1972 (16 U.S.C. 1451-64). As amended, P.L. 94-370, 90 Stat. 1013 (1976).

a. Encourages States, with cooperation of the Federal Government, to develop and implement management plans to preserve, develop, and, where possible, enhance resources of the Nation's coastal zone.

b. Prescribes that management plans include:

(1) An inventory and designation of areas of particular concern (e.g., areas of "essential habitat for living resources," including fish and wildlife).

1. The first part of the report deals with the general situation of the country and the position of the various groups of the population.

2. The second part of the report deals with the economic situation of the country and the position of the various groups of the population.

3. The third part of the report deals with the social situation of the country and the position of the various groups of the population.

4. The fourth part of the report deals with the cultural situation of the country and the position of the various groups of the population.

5. The fifth part of the report deals with the political situation of the country and the position of the various groups of the population.

6. The sixth part of the report deals with the international situation of the country and the position of the various groups of the population.

7. The seventh part of the report deals with the future of the country and the position of the various groups of the population.

8. The eighth part of the report deals with the conclusion of the report and the position of the various groups of the population.

9. The ninth part of the report deals with the appendix of the report and the position of the various groups of the population.

10. The tenth part of the report deals with the bibliography of the report and the position of the various groups of the population.

11. The eleventh part of the report deals with the index of the report and the position of the various groups of the population.

12. The twelfth part of the report deals with the conclusion of the report and the position of the various groups of the population.

13. The thirteenth part of the report deals with the appendix of the report and the position of the various groups of the population.

(2) Adequate consideration of national interests (e.g., "wildlife refuges," "areas of species and habitat preservation") during siting of facilities.

5. Emergency Wetlands Resource Act of 1986.

a. Extends the Wetland Loan Act and delays its repayment. Authorizes the charging of admission fees to certain units within the National Wildlife Refuge System and provides for distribution of the subject fee.

b. Provides for the development of a national wetland priority conservation plan to prioritize, on a regional basis, wetland acquisitions to be pursued.

c. Modifies the Land and Water Conservation Act of 1965 to require the Statewide Comprehensive Outdoor Recreation Plans to specifically address wetlands.

d. Directs the Fish and Wildlife Service to continue the National Wetlands Inventory.

e. Directs the Fish and Wildlife Service to evaluate the effects of Federal programs on wetlands.

6. Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.; 87 Stat. 884; P.L. 93-205, as amended; P.L. 94-359, 90 Stat. 913 (1974); P.L. 95-212, 91 Stat. 1493 (1977); and P.L. 95-632, 92 Stat. 3751 (1978); P.L. 96-159 (1979)).

a. Supersedes the Endangered Species Preservation Act of 1966 and the Endangered Species Conservation Act of 1969.

b. Requires all Federal departments and agencies to utilize their authorities to conserve species listed by the Secretary of the Interior or Secretary of Commerce as threatened or endangered.

c. Requires Federal agencies to ensure that the continued existence of listed species is not jeopardized and that designated critical habitat of listed species is not destroyed or adversely modified.

d. Requires consultation with the Fish and Wildlife Service (FWS) or National Marine Fisheries Service if it is determined that any BLM action (e.g., right-of-way grant) may affect a threatened or endangered species or its critical habitat.

e. Requires conference with FWS/NMFS if it is determined that an action is likely to jeopardize the continued existence of a proposed threatened and endangered (T/E) species or result in the extinction or adverse modification of proposed Critical Habitat.



1. The first part of the report deals with the general situation of the country and the position of the various groups.

2. The second part of the report deals with the economic situation and the position of the various groups.

3. The third part of the report deals with the social situation and the position of the various groups.

4. The fourth part of the report deals with the political situation and the position of the various groups.

5. The fifth part of the report deals with the cultural situation and the position of the various groups.

6. The sixth part of the report deals with the religious situation and the position of the various groups.

7. The seventh part of the report deals with the legal situation and the position of the various groups.

8. The eighth part of the report deals with the administrative situation and the position of the various groups.

9. The ninth part of the report deals with the judicial situation and the position of the various groups.

10. The tenth part of the report deals with the military situation and the position of the various groups.

11. The eleventh part of the report deals with the foreign relations situation and the position of the various groups.

12. The twelfth part of the report deals with the internal security situation and the position of the various groups.

13. The thirteenth part of the report deals with the health situation and the position of the various groups.

14. The fourteenth part of the report deals with the education situation and the position of the various groups.

15. The fifteenth part of the report deals with the labor situation and the position of the various groups.

7. Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.; 90 Stat. 2743; P.L. 94-579).

a. Requires the development and maintenance of land use plans based on an inventory of all public lands and their resources.

b. Identifies "fish and wildlife development and utilization" as a principal or major land use.

c. Requires that part of grazing fees be spent for "range betterment," including aquatic and terrestrial wildlife habitat enhancement, protection, and maintenance where livestock use occurs.

d. Requires consideration of fish and wildlife resources before approval of land exchanges.

e. Authorizes the Secretaries of the Interior and Agriculture to designate areas under their jurisdiction and establish time periods in which no hunting and fishing would be permitted for reasons of public safety, administration, or applicable law.

f. Authorizes the designation of Areas of Critical Environmental Concern to protect and prevent irreparable damage to fish and wildlife, and other resources.

g. Neither enlarges nor diminishes the responsibilities and authorities of the State for management of fish and resident wildlife.

h. Authorizes investigations, studies, and experiments—involving the improvement, management, use, and protection of the public lands and their resources.

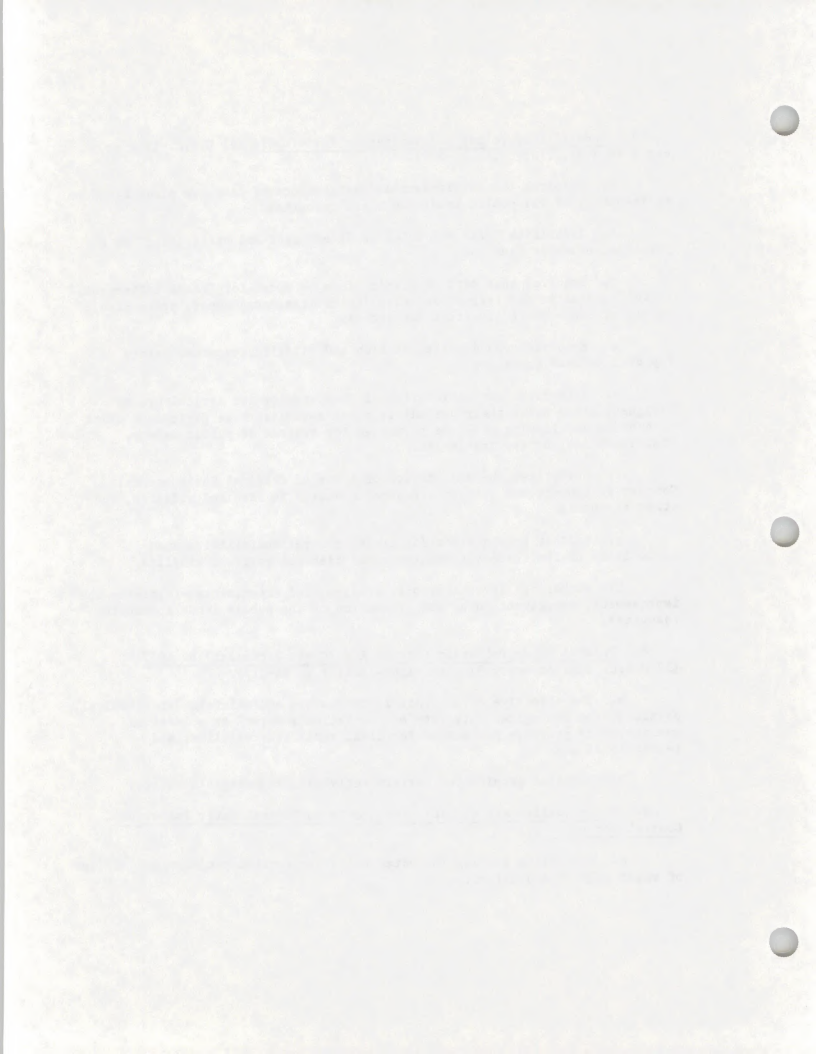
8. Federal Water Pollution Control Act (Clean Water Act) of 1977 (33 U.S.C. 1251 et seq.; 91 Stat. 1566-1611; P.L. 95-217).

a. The objective of this Act is to restore and maintain "the chemical, physical, and biological integrity of the Nation's water" at a level of quality which provides protection for fish, shellfish, wildlife, and recreational use.

b. Requires permits for certain activities in navigable waters.

9. Water Quality Act of 1987 (Amendments to Federal Water Pollution Control Act of 1977).

a. Authorizes funding for water pollution control projects and studies of water pollution problems.



b. Establishes standards and timetables for pollution designation and enforcement.

c. Establishes a program to manage nonpoint sources of pollution by authorizing funds to States to prepare reports and plans on waters that are not expected to meet desired water quality goals.

d. Upon Federal acceptance of reports, States are eligible for grants to implement plans to control nonpoint source pollution problems.

10. Fish and Wildlife Coordination Act of 1958 (16 U.S.C. 661 et seq.; 72 Stat. 563).

a. Directs that wildlife conservation be given equal consideration and be coordinated with other features of water resource development programs.

b. Requires that possible damage to fish and wildlife resources, from work planned in navigable waters and drainages, be assessed and that measures be adopted for preventing such losses or damages as well as for development and improvement of wildlife and fisheries resources.

11. Fish and Wildlife Improvement Act of 1978 (92 Stat. 3110; P.L. 95-616). Authorizes the Secretary to permit taking of golden eagle nests which interfere with resource development or recovery operations.

12. Fishery Conservation and Management Act of 1976 (16 U.S.C. 1801-1802, 1811-1813, 1821-1825, 1851-1862, 1882; 90 Stat. 331; P.L. 94-265).

a. Asserts for the United States Management authority over fish and all forms of marine animals and plants (except marine mammals, birds, and migratory species) within a 197-mile conservation zone contiguous to the U.S.

b. Claims for the U.S. the authorities over anadromous fish which spawn in U.S. fresh or estuarine waters, and over certain sedentary species on areas of the Continental Shelf, extending beyond the conservation zone.

c. Requires preparation of comprehensive fishery management plans by regional fishery management councils, composed of Federal and State officials. The Secretary of Commerce has the lead in implementation of this law.

13. Food Security Act of 1985 (Farm Bill).

a. Encourages the removal of marginal lands from production and provides various incentives for wetland habitat protection and restoration while reducing Federal subsidy costs.





b. Contains a "swamp buster" provision that withholds subsidies for agricultural products produced on agricultural land converted from wetland after December 23, 1985.

c. Provides for conservation set-asides of not less than 10 years for highly erodible lands (that may be interspersed with wetlands). Also provides for cost sharing for planting cover crops.

d. Provides for Federal Farm Home Loan debt relief in exchange for 50-year easements for conservation purposes on lands held by the borrower.

14. Marine Mammal Protection Act of 1972 (16 U.S.C. 1361-62, 1371-84, and 1401-07, as amended by the Fisheries Conservation and Management Act of 1976, P.L. 94-265, 90 Stat. 331).

a. Establishes a moratorium on the taking, possessing, transporting, selling, and importing of marine mammals or their products, except in a few circumstances (e.g., takings incidental to commercial fisheries operations).

b. Provides the Secretary of the Interior and Secretary of Commerce principal roles for protecting species or populations of cetacea and pinnipedia (except walruses), and all other marine mammals, respectively.

15. Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1401-44 and 16 U.S.C. 1431-34; 86 Stat. 1052).

a. Authorizes the Secretary of Commerce to designate areas of the Outer Continental Shelf as "marine sanctuaries" in order to promulgate their conservation, recreation, ecological, and esthetic values. (BLM would be one of the Federal agencies consulted regarding proposed sanctuaries on the Shelf.)

b. Once a delegation is made, any permits, licenses, or other authorization issued must be certified by the Secretary of Commerce to be consistent with the Act (e.g., the action does not result in dumping of wastes which would pollute the sanctuary).

16. Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-711; 40 Stat. 775, as amended, 49 Stat. 1556 (1936), 74 Stat. 866 (1960), 88 Stat. 190 (1974), 92 Stat. 3111-3112 (1978)).

a. Establishes Federal responsibility for the protection of international migratory bird resources, implements conventions between the U.S. and other governments (Great Britain, Japan, Mexico, Russia) and gives the Secretary of the Interior (FWS) authority to regulate hunting of migratory birds.

1. The first part of the report deals with the general situation of the country and the position of the various groups of the population.

2. The second part of the report deals with the economic situation of the country and the position of the various groups of the population.

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11. The eleventh part of the report deals with the internal security of the country and the position of the various groups of the population.

12. The twelfth part of the report deals with the international relations of the country and the position of the various groups of the population.

17. National Environmental Policy Act of 1969 (42 U.S.C. 4321-47; 83 Stat. 852; P.L. 91-190).

a. Requires Federal agencies to utilize a systematic, interdisciplinary approach to ensure the use of natural and social sciences, and environmental design arts in any planning or decisionmaking that might impact man's environment.

b. Establishes national environmental policy to, among other things, encourage productive and harmonious relationships between man and his environment and to enrich the understanding of ecological systems and natural processes important to the Nation. Fish and wildlife is obviously an important aspect of any such systems and processes.

c. Requires preparation of detailed statements on environmental impacts of proposed major Federal actions that significantly impact the quality of the human environment.

18. Public Rangelands Improvement Act of 1978 (43 U.S.C. 1901 et seq.).

a. Directs improvement of rangeland conditions in accordance with land use planning under FLPMA.

b. Directs development and maintenance of an inventory of range conditions and trends as part of FLPMA's inventory process.

c. Requires prior consultation with the FWS, wildlife agencies of the State where animals are located, individuals independent of Federal and State government recommended by the National Academy of Sciences and other individuals having scientific expertise and special knowledge of wild horses and burros, wildlife management, and animal husbandry as related to rangeland management.

d. Provides funding for rangeland improvements which includes providing habitat for wildlife.

19. Sikes Act of 1960 (16 U.S.C. 670a-f; 74 Stat. 1052, as amended, P.L. 93-452 and 88 Stat. 1369 (1974), P.L. 95-420, and 92 Stat. 921 (1978)). The basic intent of Title II was to extend the Sikes Act authority for wildlife program development from strictly military reservations to public lands administered by the Forest Service and BLM. In essence, it was a congressional mandate for BLM to "... plan, develop, maintain and coordinate programs for the conservation and rehabilitation of wildlife, fish and game."

a. Title I extends wildlife programs on military reservations and provides funding authorization.

b. Title II authorizes the following key elements for BLM wildlife program management:

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(1) Cooperative agreements subject to the Grants Cooperative Agreement Act, (P.L. 95-224; U.S.C. 6306 (See BLM Manual Section 1500)) and close working relationships with State wildlife agencies; (The Sikes Act as amended, provides an exemption to the requirements of the Grants and Cooperative Agreement Act if the work to be done is covered by a Habitat Management Plan (HMP) and the work will be done by the State Fish and Wildlife Agency (see BLM Manual Section 6521.1)).

(2) Preparation and implementation of joint BLM-State wildlife agency habitat management plans (HMP's).

(3) Integration of the BLM's wildlife program with the Bureau's planning system, environmental assessment, and public input and review process.

(4) Implementation of on-the-ground wildlife habitat improvement, maintenance, and protection programs.

(5) Protection and management of both Federal and State-listed threatened and endangered species.

(6) Establishment of a potential hunting and fishing stamp program for State wildlife agencies to use--if and when they deem fit.

20. Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. 1201 et seq.; P.L. 95-87).

a. Authorizes the surface mining of coal in environmentally compatible areas.

b. Establishes criteria for designation of lands unsuitable for surface mining of coal or other minerals.

c. Provides for reclamation of past orphaned surface disturbances.

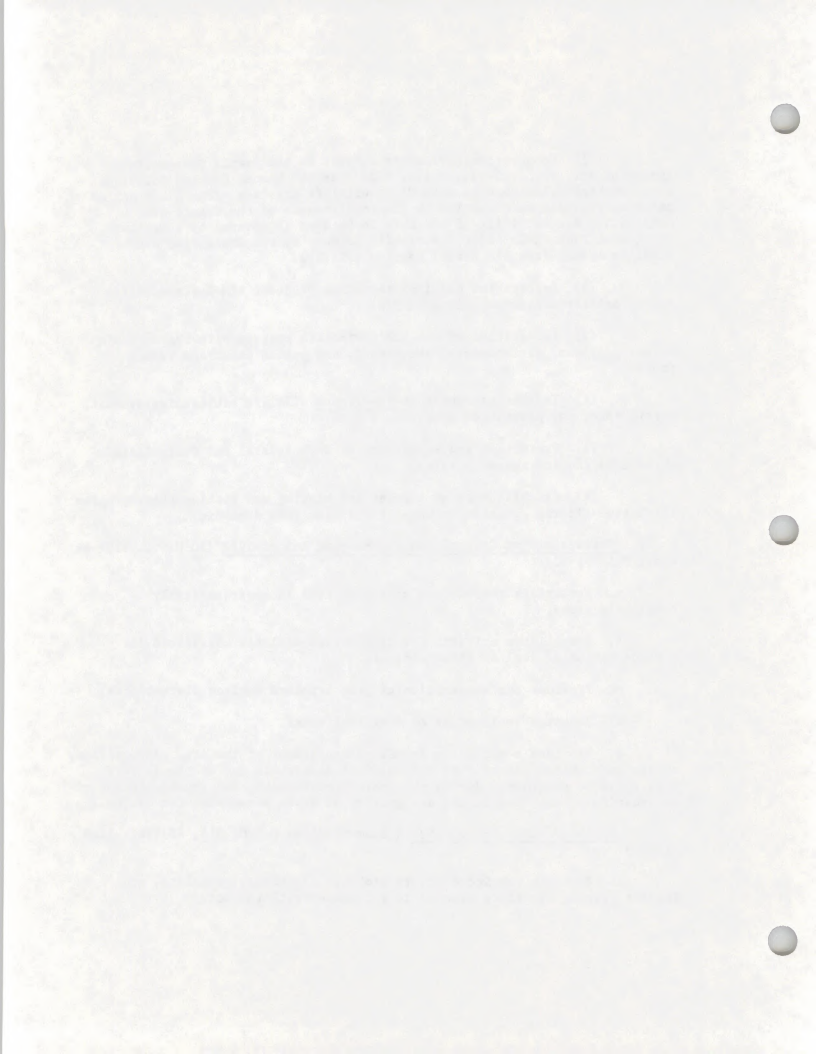
d. Requires reclamation of disturbed areas.

e. Provides a mechanism for State management of the Act. (Protection and/or reestablishment of fish and wildlife habitat is one of the factors that would be considered during the design, assessment, and implementation of reclamation plans, and during designation of areas unsuitable for mining.)

21. Taylor Grazing Act of 1934 (as amended, 43 U.S.C. 315; 48 Stat. 1269 (1970)).

a. Requires the Secretary to protect, administer, regulate, and improve grazing districts created in accordance with the Act.





b. Section 2 of the Act also requires the Secretary "to ensure the objects of such grazing districts, namely, to regulate their occupancy and use, to preserve the land and its resources from destruction or unnecessary injury, to provide for the orderly use, improvement, and development of the range."

c. Authorizes the Secretary "to continue the study of erosion and flood control and to perform such work as may be necessary to amply protect and rehabilitate such areas within grazing districts."

d. Provides for cooperation with local stockmen associations, State land officials, and State agencies engaged in conservation or propagation of wildlife which are interested in the use of grazing districts for such purposes.

e. Provides for hunting and fishing in grazing districts in accordance with applicable laws.

22. Joint Resolution Regarding Tule Elk, January 1976 (16 U.S.C. 673; 90 Stat. 1189).

a. Provides for the Secretary of the Interior, the Secretary of Agriculture, and the Secretary of Defense to cooperate with the State of California in making lands under their respective jurisdictions reasonably available for management of Tule elk.

b. Requires the Secretary of the Interior to submit a report every three years regarding the size and condition of the Tule elk herds and the nature and condition of their respective habitats.

23. Wild Free-Roaming Horse and Burro Act of 1971 (16 U.S.C. 1331-40, 85 Stat. 649).

a. Requires that management activities for wild horses and burros be carried out in consultation with State wildlife agencies in order to protect the natural ecological balance of all wildlife species inhabiting the land, particularly endangered wildlife.

b. Requires that any adjustments in forage allocations take into consideration the needs of all wildlife species.

B. Executive Orders (EO's).

1. EO 12342 of January 1982. This Executive Order permits effective predator control with environmental safeguards.

1. The first part of the report deals with the general situation of the country and the position of the various groups of the population. It is a very general survey and does not contain any detailed statistics.

2. The second part of the report deals with the economic situation of the country. It contains a detailed survey of the various branches of the economy and the position of the different groups of the population.

3. The third part of the report deals with the social situation of the country. It contains a detailed survey of the various social groups and the position of the different groups of the population.

4. The fourth part of the report deals with the political situation of the country. It contains a detailed survey of the various political groups and the position of the different groups of the population.

5. The fifth part of the report deals with the cultural situation of the country. It contains a detailed survey of the various cultural groups and the position of the different groups of the population.

6. The sixth part of the report deals with the legal situation of the country. It contains a detailed survey of the various legal groups and the position of the different groups of the population.

7. The seventh part of the report deals with the administrative situation of the country. It contains a detailed survey of the various administrative groups and the position of the different groups of the population.

8. The eighth part of the report deals with the military situation of the country. It contains a detailed survey of the various military groups and the position of the different groups of the population.

9. The ninth part of the report deals with the foreign relations of the country. It contains a detailed survey of the various foreign relations groups and the position of the different groups of the population.

10. The tenth part of the report deals with the future of the country. It contains a detailed survey of the various future groups and the position of the different groups of the population.

11. The eleventh part of the report deals with the conclusion of the report. It contains a detailed survey of the various conclusion groups and the position of the different groups of the population.

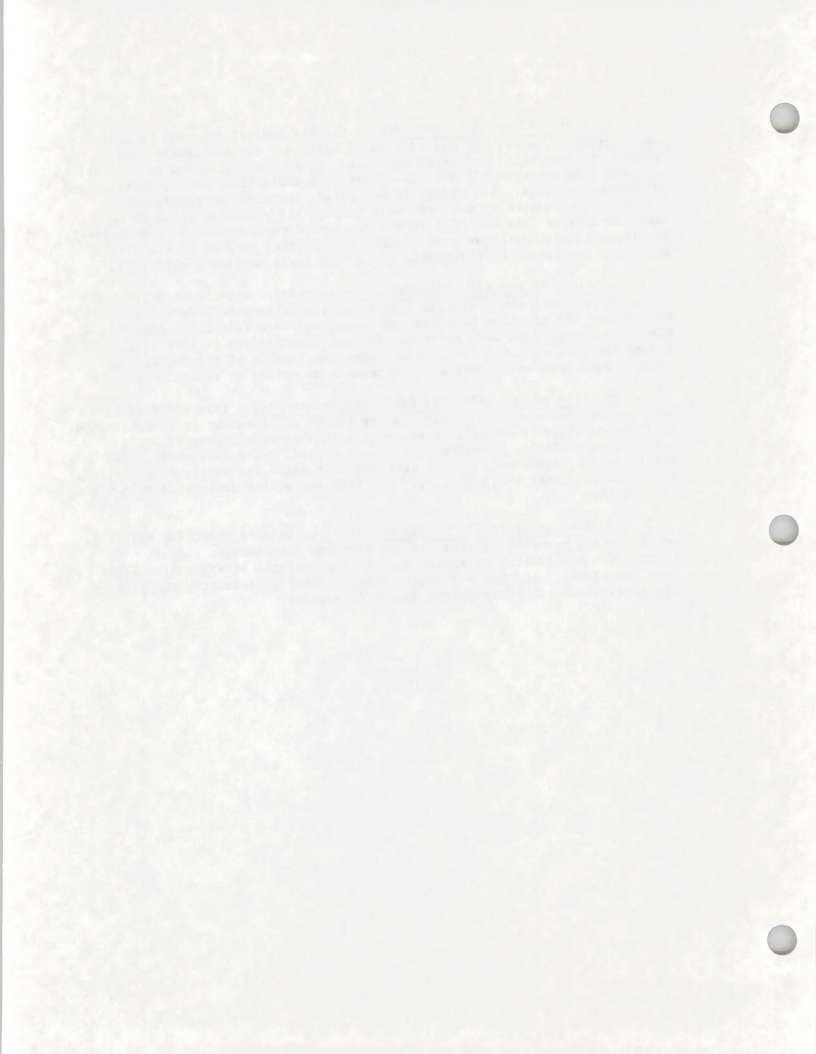
12. The twelfth part of the report deals with the appendix of the report. It contains a detailed survey of the various appendix groups and the position of the different groups of the population.

2. EO 11990 of May 1977 (Wetlands). Directs Federal agencies to minimize the destruction, loss, and degradation of wetlands, and to preserve and enhance the beneficial values of wetlands. In administering its activities, agencies must evaluate the effects of the proposed actions on the survival and quality of wetlands. All federally initiated, financed, or permitted construction projects in wetlands must include all practical measures to minimize adverse impacts. All leases, rights-of-way, easements, and disposals involving Federal wetlands must contain restrictions to uses by the grantee which are consistent with Federal, State, and local wetland regulations.

3. EO 11988 of May 1977 (Floodplain Management). Directs each Federal agency to evaluate the potential effects of its actions on floodplains and to ensure that its planning programs and budget requests take flood hazards and floodplain management into account. Federal agencies are to take actions to reduce the risk of flood loss, to minimize the impacts of floods, and to restore and preserve the natural and beneficial values of floodplains.

4. EO 11989 of May 1977 (Off-Road Vehicles (ORV's)). This order directs heads of Federal agencies to close areas to ORV use whenever it is determined that use of ORV's is or will cause considerable adverse impact on soil, vegetation, wildlife, wildlife habitat, or certain other resources on the public lands. Agencies are also authorized to adopt the policy that portions of the public lands shall be closed to ORV's except for designated open areas and trails.

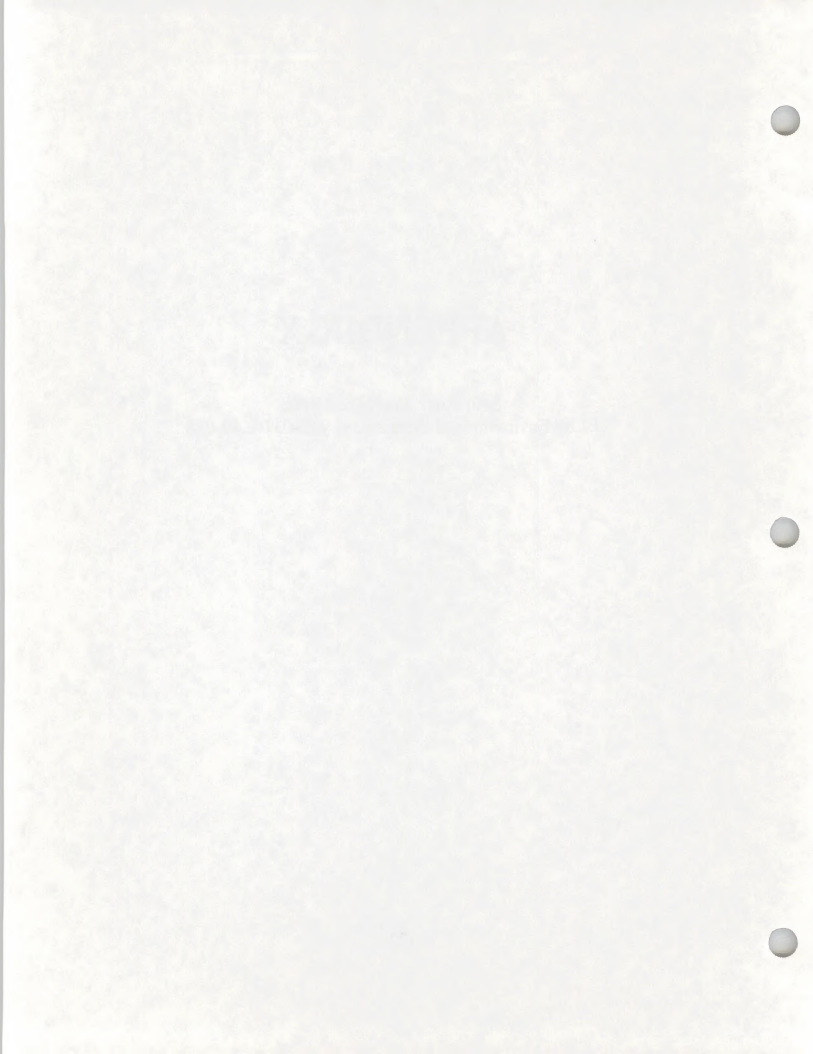
5. EO 11987 of May 1977 (Exotic Organisms). Directs Executive agencies, to the extent permitted by law, to restrict the introduction and/or importation and funding of exotic species into natural ecosystems on lands they administer. It also encourages States, local governments, and private citizens to prevent introduction of exotic species.





# APPENDIX X

Split Rock Prescribed Burn  
BLM Environmental Assessment WY-037-EA0-038



ENVIRONMENTAL ASSESSMENT TILE PAGE  
RAWLINS DISTRICT

EA No. WY-037-EAO-038

Name or Title of Action Split Rock Prescribed Burns

File Name, No. and Location GDRA Wildlife Files 6711.4

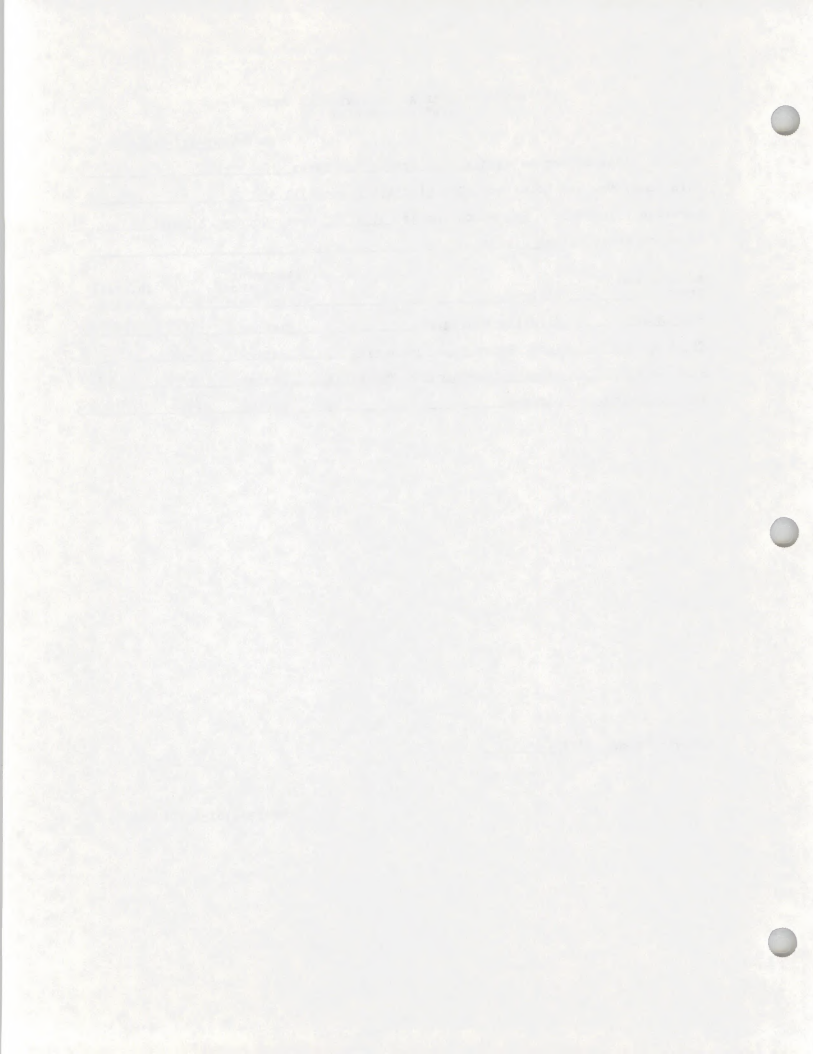
Location: Township 24 North, Range 71 & 72 West, County Albany

Resource Area: Great Divide

Authors and Reviewers	Title	Assignment (i.e. Author or Review)	Initials & Date
Mary Read	Wildlife Biologist	Author	MJR 1/25/93
Chuck Reed	Supv. Range Conservationist	Review	CR 1/25/93
Walt George	Supv. Multi-Resource Specialist	Review	WJG 1.27.93
Tim Bottomley	Forester	Review	TAB 1/25/93

Activity Code 4351

WY-03-1791-5 (05/89)



ENVIRONMENTAL ASSESSMENT TITLE PAGE  
RAWLINS DISTRICT

EA No. WY-037-EAO-038

Name or Title of Action Split Rock Prescribed Burns

File Name, No. and Location GDRA Wildlife Files 6711.4

Location: Township 24 North, Range 71 & 72 West, County Albany

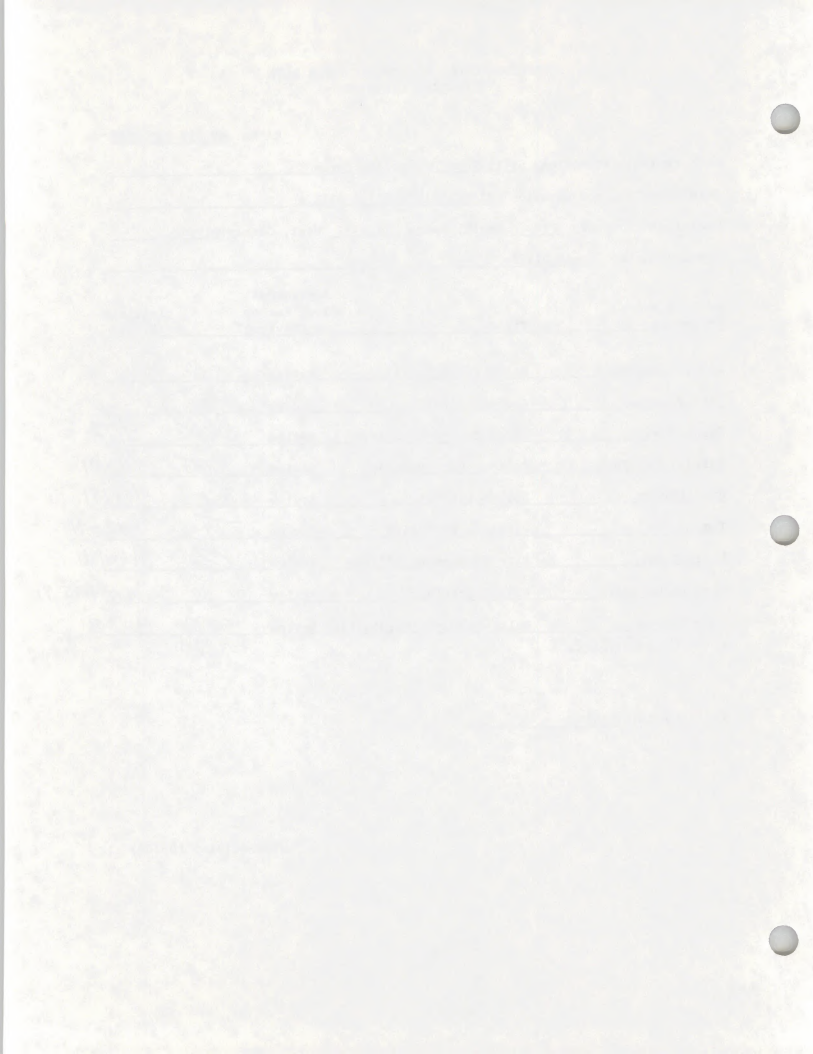
Resource Area: Great Divide

Authors and Reviewers	Title	Assignment (i.e. Author or Review)	Initials & Date
Deborah Poelker	Wildlife Biologist	Author	DP 4/12/91
Gary DeMarcey	Archaeologist	Review	GD 4-17-91
Chuck Reed	Range Conservationist	Review	CR 4/12
Shirley Bye-Jech	Outdoor Rec. Planner	Review	SBJ 4/12/91
Dick Larsen	Soil Scientist	Review	R-L 4/12/91
Tom Rinkes	Wildlife Biologist	Review	TR 4-12-91
Larry Trapp	Fire Management Officer	Review	LT 4/16/91
Mary Hammersmark	ADM, Operations	Review	MH 4-15-91
<del>John Husband</del> WALT GEORGE	Multi-Resource Specialist	Review	SBG 4-17-91 for GH

Activity Code 4351

WY-03-1791-5 (05/89)





ENVIRONMENTAL ASSESSMENT TITLE PAGE  
RAWLINS DISTRICT

EA No. WY-037-8A0-038

Name or Title of Action Split Rock Prescribed Burns

File Name, No. and Location GDRA Wildlife Files 6711.4

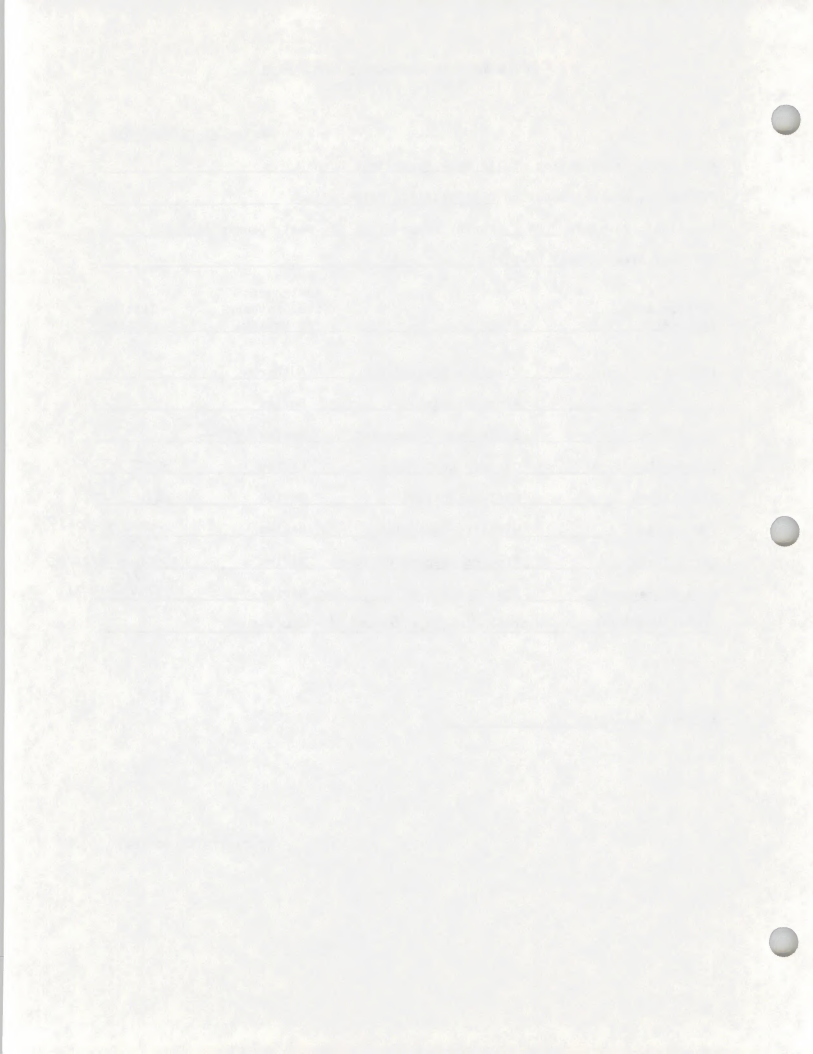
Location: Township 24 North, Range 71 & 72 West, County Albany

Resource Area: Great Divide

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Activity Code 4351

WY-03-1791-5 (05/89)



WGPD = Wyoming Game and Fish Department  
WSLO = Wyoming State Lands Office  
WCRU = Wyoming Cooperative Research Unit  
USFS = United States Forest Service

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Split Rock Prescribed Burn Environmental Assessment as amended  
WY-037-EAO-038

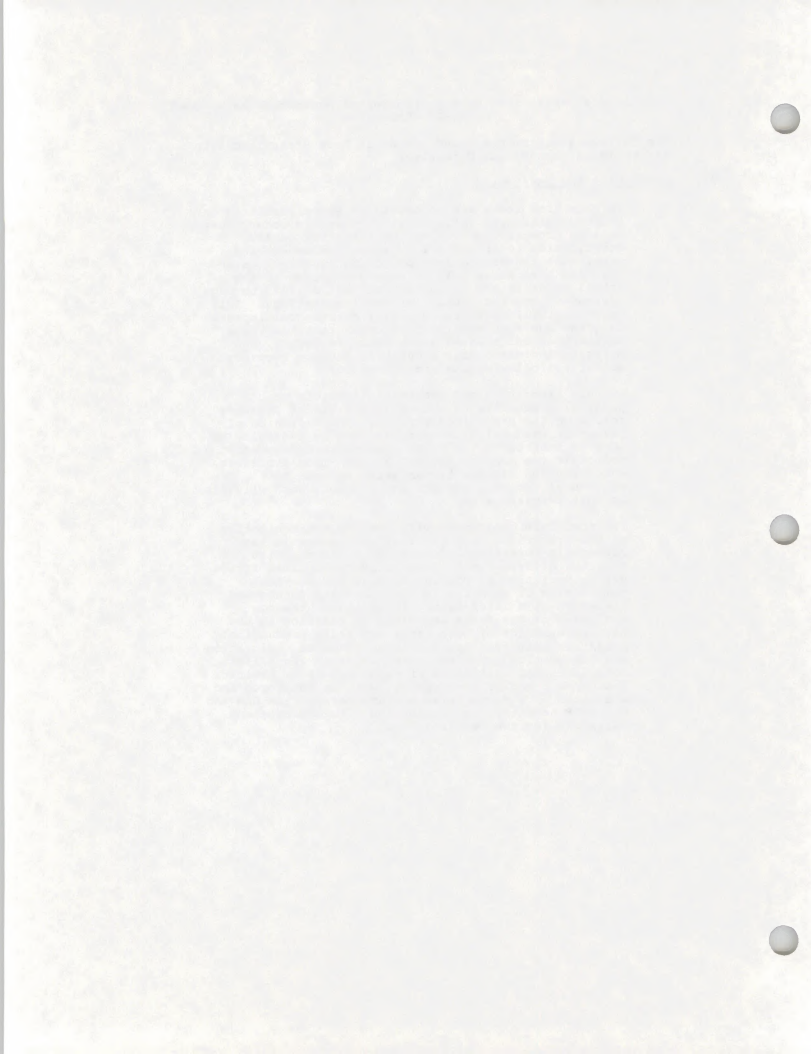
The following statements amend the Split Rock Prescribed Burn Environmental Assessment Objectives.

VI. Mitigation and Monitoring

- E. At this time there are no cattle or sheep permitted in the burn site area (allotment). If strays occur, they will be promptly removed by the livestock owner. Consultation to inform all adjacent landowners and permittees concerning lost or roving livestock on or near the burn sites will be completed prior to the actual burns in the spring and/or fall of 1993 through correspondence and public information meetings. This procedure will mitigate potential detrimental impacts on grass and forb species production rate, decrease sediment deposits in adjacent water resources, and mitigate increased soil erosion to enhance recovery abilities following the prescribed burn.

At this time it is not reasonably feasible or physically possible to keep wildlife off of the area following the prescribed burn, but the exclusion of livestock use will alleviate, as best as possible, any adverse impacts to the area. Post-burn management protocols can monitor natural and man-made processes, which include disease transmission as well as accidental direct livestock interaction, with wildlife in this resource area.

The post-burn management will include the monitoring of the prescribed burn to study and manage in the reasonable foreseeable future the abundant, high quality, diverse habitat resources for optimal forage use by variation of population size and sex-age composition of wildlife in the immediate future and livestock at a later date. In addition, the co-evolution of the fauna and flora in relation to the natural dynamics of both fauna and flora production, predators, diseases, physical environments, emigration and immigration processes, variations in fauna/flora conditions and variations of range use (e.g. habitat abandonment and/or development) will be monitored and evaluated in a cooperative venture between the BLM and the WYGF to determine present and future management decisions for the resource area.



Decision Record/Rationale  
WY-037-EAO-038  
Split Rock Prescribed Burns

I. Proposed Action

The proposed action is to prescribe burn sagebrush/grass in the spring and felled timber in the fall within a 400 acre perimeter area in 1993. Burns will be conducted by common mechanical means. The prescribed burns will not be conducted until weather and moisture conditions are suitable to confine the fire to the predetermined area. The primary objective of the burn is to improve habitat conditions for the Duck Creek subherd of the Laramie Peak bighorn sheep herd in the Laramie Peak Wildlife Habitat Area, 25 miles west of Wheatland.

The proposal is located in T. 24 N., R. 72 W., Section 25 and 36 and T. 24 N., R. 71 W., Section 31. The proposed action is consistent with the Great Divide Resource Management Plan.

II. Alternatives Considered

A. Preferred Alternative

The proposed action is the preferred alternative.

B. Other Alternatives

1. No Action.
2. Burn the proposed area in the fall.

III. Decision and Rationale

The decision is to implement the proposed action as identified in the attached EA (WY-037-EAO-038).

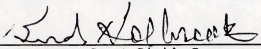
The action will provide a higher quality and quantity of available forage for the bighorn sheep using the Split Rock Mountain and Duck Creek areas during the spring, summer, and fall seasons.

IV. Conclusions

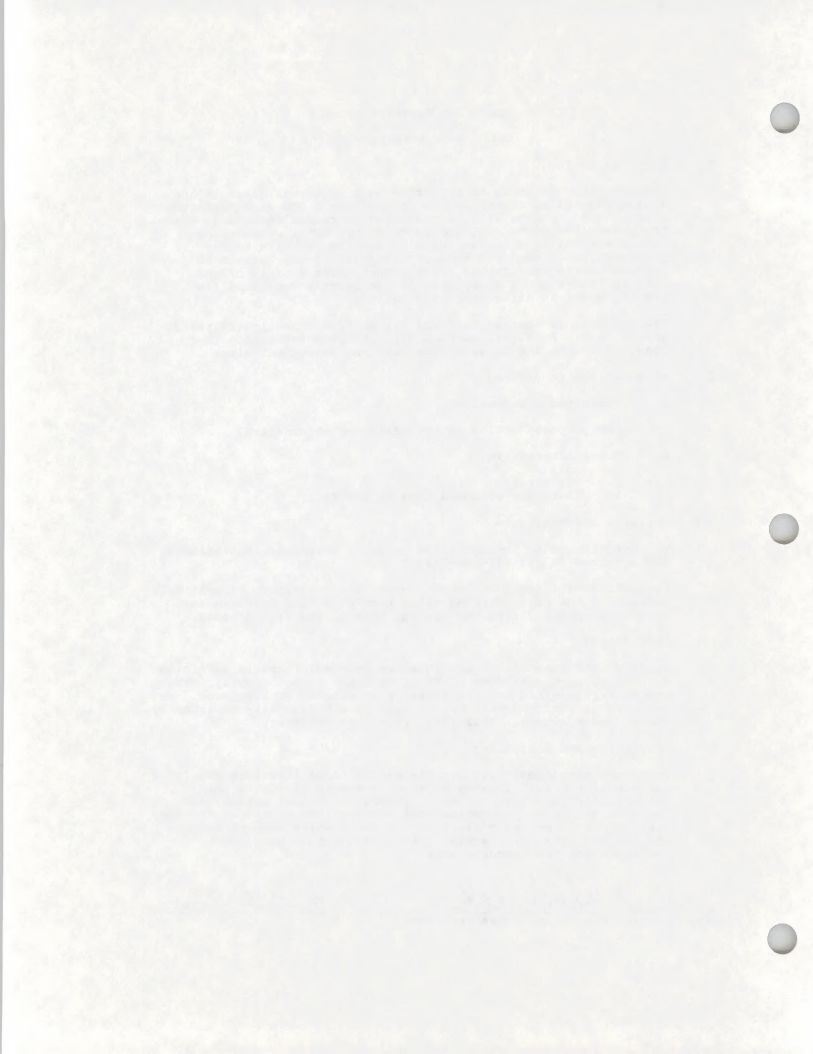
Based on the attached EA analysis, as amended, there is sufficient data to support a Finding of No Significant Impact (FONSI). There are no irreversible or irretrievable commitment of resources. No resource or environmental values will be substantially impacted by the proposed action. Therefore, no EIS is necessary.

V. Mitigation and Monitoring

Post-burn management requires the exclusion of livestock use for a minimum of two full growing seasons to enable plants to gain carbohydrate reserves, increase production of leaf matter, and increase soil cover to reduce soil movement and erosion. The area will be monitored and evaluated in a cooperative venture between the BLM and WYGF to determine present and future management decisions for the Resource Area.

  
Area Manager, Great Divide Resource Area

2-23-92  
Date



## Split Rock Prescribed Burns

WY-037-EA0-038

### I. Purpose and Need

The following are the prescribed burn objectives.

1. Improve forage quality and quantity on public and adjacent state land for bighorn sheep, elk and mule deer by improving grass/forb production, increasing new palatable shrub production and reducing stagnant shrub growth.
2. Improve bighorn sheep feeding sites adjacent to escape terrain and nursery areas.
3. Reduce the young ponderosa pine regeneration in the burn units to provide visual migration corridors for bighorn sheep to escape cover or habitat not currently used (historical use areas).
4. Provide uneven aged forage classes and edge effect by conducting mosaic pattern prescribed burns.

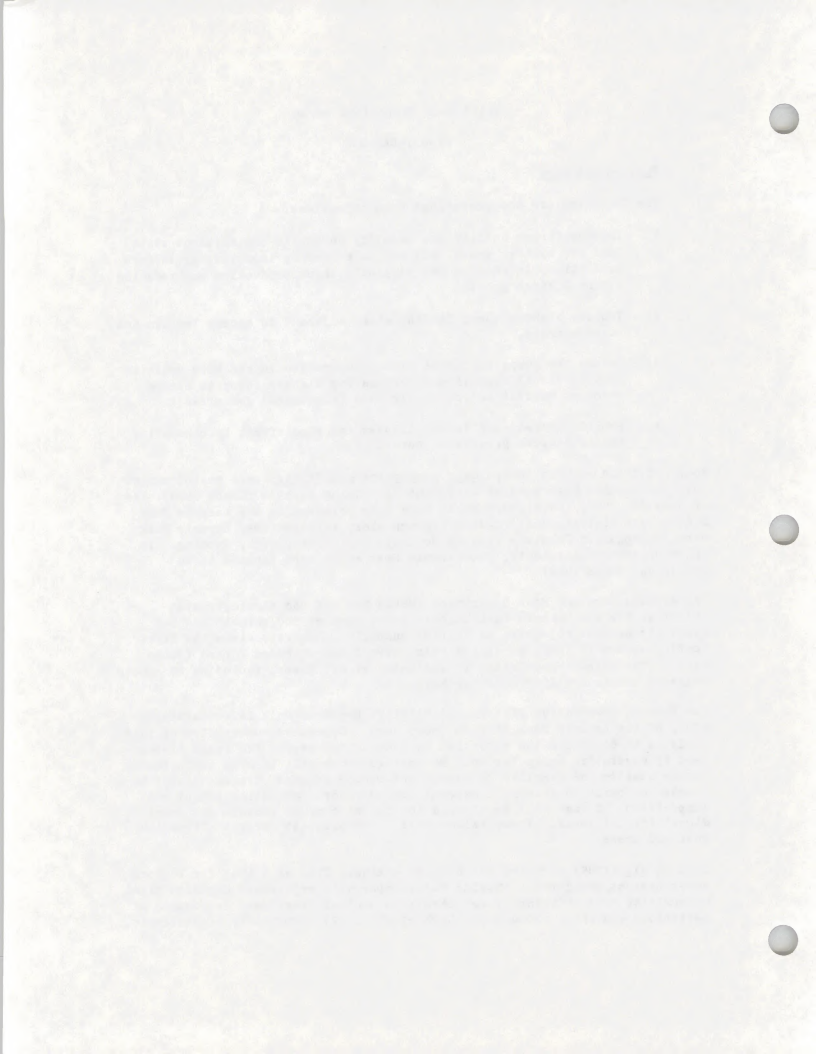
Rocky Mountain bighorn sheep (Ovis canadensis canadensis) were re-introduced into the Laramie Peak area of east central Wyoming in 1964 (Bohne 1989). As of June 30, 1989, 168 bighorn sheep have been released in the Laramie Peak D.A.U. Data Analysis Unit (DAU). Bighorn sheep released near Laramie Peak were transplanted from the Whiskey Mountain herd near Dubois, Wyoming. In spite of these transplants, the Laramie Peak sheep herd appears to be declining (Bohne 1989).

The Wyoming Game and Fish Department (WGFD) has set the strategic plan objective for the Laramie Peak bighorn sheep herd at 500 animals and the strategic harvest objective at 24 rams annually. However, since the first hunting season in 1969, no single year harvest has exceeded 7 rams (Bohne 1989). The current population is estimated at 227 sheep, including 20 sheep released in January 1989 near Marshall.

The Wyoming Cooperative Fishery and Wildlife Research Unit is conducting a study of the Laramie Peak bighorn sheep herd. Objective number five of this study is to determine the potential to enhance and expand the range of this herd by vegetative manipulation. Prescribed burns will be used to increase forage quality and quantity on summer and winter ranges. Transects will be sampled on burns to determine percent canopy cover, vegetation height and composition. Forage will be clipped to determine crude protein and total digestible nutrients. These values will be compared to forages clipped on unburned areas.

Cook et al. (1989) stressed the need to evaluate fire as a tool for bighorn sheep habitat management. Spring burns apparently rejuvenate decadent plant communities most efficiently and result in minimal first-year depression of herbaceous and shrub production (Cook et al. 1989). Mortality of desirable,





deciduous browse can be minimized by burning in spring during relatively cool temperatures and higher soil moisture conditions. Forage quality, crude protein and digestibility, greatly increased on burn sites the first year after burning (Cook et al. 1989). Smith (1988) suggested that benefits derived from burning may last ten to fifteen years.

Sheep strongly select burned areas but observed selection is highly seasonal and variable among areas, reflecting physical site conditions and juxtaposition of burns to other habitat components selected by sheep (Cook et al. 1989). Accordingly sheep select burned habitats in winter only if they occur on south to west aspects at lower elevations where winter forage is accessible (Cook et al. 1989). Cook et al. (1989) suggests that prescribed burns should be interspersed within lambing/nursery areas to provide the greatest benefit to lactating ewes.

In addition to the vegetative benefits derived from spring burns, these burns are also safer from a fire control standpoint in that they would provide much greater ease of control due to moist soils and snow accumulations which act as natural fire breaks.

## II. Description of the Proposed Action and Alternatives

### A. Proposed Action

The proposed action is to prescribe burn in the spring approximately 400 acres of sagebrush/grass, mountain shrub, and young ponderosa pine. The burns would be located within the 1500 acres indicated on the attached map, of the proposed burn area and land ownership. Burns would be conducted in one to two days in the late winter or spring depending upon weather conditions. Due to the unpredictable weather and snow accumulation conditions in the area, burns would be executed on an opportunistic basis. Those areas suitable for burning, when all other parameters are favorable (i.e. snow accumulations, wind, etc.), would be ignited. The priority areas to burn are located in the south and central portions of T. 24 N., R. 71 W., Section 31. Selection of the burn area was based on bighorn sheep observations and historical use of the area, topography, fuel breaks, and snow accumulation areas.

Burns would be ignited with common mechanical methods. Existing breaks in vegetation or natural barriers such as rock outcrops or snow drifts would be used as control lines or burn unit boundaries. No fire lines would be constructed unless absolutely necessary. Black lines would be burned in low fire behavior periods such as early morning.

Burns would be conducted cooperatively by BLM personnel, Wyoming Game and Fish Department personnel, and US Forest Service personnel.

The proposed action is consistent with the Great Divide Resource Management Plan.

1. The first part of the report deals with the general situation of the country and the results of the survey. It is divided into two main sections: the first section deals with the general situation of the country and the second section deals with the results of the survey.

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7. The seventh part of the report deals with the results of the survey. It is divided into two main sections: the first section deals with the results of the survey and the second section deals with the results of the survey.

## B. Alternatives

1. No action - Rejection of the proposal.
2. Burn the proposed area in the fall.

## III. Affected Environment

Environmental components that would not be affected by the proposed action are minerals, fisheries, prime or unique farmlands, wetlands, floodplains, wilderness areas, ecological significant or critical areas such as ACEC's (areas of critical environmental concern), wild or scenic rivers, Native American religious concerns, and threatened or endangered species. Because these resources are not affected they will not be analyzed in this document. The proposed action would not produce any solid or hazardous waste.

Timber harvest in this area is not cost effective at this time because of the high cost of road construction in the rugged rock terrain. Mature timber would be damaged very little from a low intensity spring burn. Therefore, forestry will not be analyzed further.

Currently, grazing does not occur in the proposed burn area. Due to the rugged terrain, no significant livestock use is expected in the future. Therefore, environmental impacts on livestock grazing will not be analyzed.

There are no known cultural sites in or near the project area. There are no known standing structures. No surface disturbance or fireline construction is expected. Therefore, cultural resources would not be affected and will not be further analyzed.

### Air

Air quality in Duck Creek and Split Rock Mountain area is considered excellent. Wind is common and helps maintain high air quality. Prevailing winds are from the southwest-west.

### Water

Three perennial streams and numerous intermittent streams occur in the project area. The perennial streams are Duck, Ashley, and Pole Creeks. Average annual precipitation is 15 to 19 inches with the most precipitation occurring as snow during winter months.

### Soils

Soils survey information was from the Albany County Soil Survey. The proposed burns occur primarily in the Redfeather - Lakehelen - Rogert, Rock Outcrop - Cathedral, and Boyle - Alderon - Rock Outcrop soil

THE HISTORY OF THE UNITED STATES

OF THE UNITED STATES OF AMERICA

BY JAMES M. SMITH

The history of the United States is a story of the growth of a great nation from a small colony of English settlers. The first settlers came to the New World in search of a better life, and they found it. They built a new society, one that was based on the principles of liberty and justice for all. This society grew and grew, and it became the most powerful nation in the world.

The story of the United States is a story of the struggle for freedom. The first settlers fought for the right to be free from the control of a distant king. They fought for the right to be free from the control of a distant government. They fought for the right to be free from the control of a distant power.

The story of the United States is a story of the struggle for equality. The first settlers fought for the right to be free from the control of a distant king. They fought for the right to be free from the control of a distant government. They fought for the right to be free from the control of a distant power.

The story of the United States is a story of the struggle for justice. The first settlers fought for the right to be free from the control of a distant king. They fought for the right to be free from the control of a distant government. They fought for the right to be free from the control of a distant power.

The story of the United States is a story of the struggle for peace. The first settlers fought for the right to be free from the control of a distant king. They fought for the right to be free from the control of a distant government. They fought for the right to be free from the control of a distant power.

The story of the United States is a story of the struggle for progress. The first settlers fought for the right to be free from the control of a distant king. They fought for the right to be free from the control of a distant government. They fought for the right to be free from the control of a distant power.

The story of the United States is a story of the struggle for the future. The first settlers fought for the right to be free from the control of a distant king. They fought for the right to be free from the control of a distant government. They fought for the right to be free from the control of a distant power.



complexes. The water erosion hazard is moderate in all of the complexes except the Redfeather - Lakehelen - Rogert complex where it is severe. Wind erosion hazard is slight for all soils except the Redfeather - Lakehelen - Rogert complex where it is moderate.

These soils occur on slopes ranging from 5-50 percent.

#### Vegetation

Approximately one-third of the area is forested. Most of these areas consist of a ponderosa pine overstory and an understory comprised of various shrub, grass and forb species including western snowberry, creeping juniper, western and bluebunch wheatgrass, Parry danthonia, starry cerastium, flowery phlox and western yarrow.

Another one-third of the area is comprised of varying densities of big sagebrush and grass species. In this type, big sagebrush is the dominant overstory shrub with an understory of various grasses and forbs including needleandthread, western wheatgrass, needleleaf sedge, sandberg bluegrass, rose pussytoes, hairy goldaster, and selaginella ("dense clubmoss").

The remaining one-third of the area is a highly diverse area compound of a variety of shrubs, grasses, forbs, and scattered conifers. Some of the shrub species include big sagebrush, mountain mahogany, antelope bitterbrush, Douglas and rubber rabbitbrush, and fringed sagewart. Grass species include Idaho fescue, needleandthread, sandberg bluegrass, prairie junegrass and western wheatgrass. The scattered tree species include limber and ponderosa pine. Forb species are numerous. Riparian zones are found within all these types.

#### Wildlife

The Split Rock Mountain and Duck Creek area provide habitat for a variety of game and nongame wildlife. The proposed project area is crucial winter/yearlong habitat for bighorn sheep, elk, and mule deer. Other species which occur are blue grouse, red squirrel, cottontail rabbit, black bear, and mountain lion. A wide variety of raptors use the area for nesting, feeding, migration, and, in some cases, wintering.

#### Visual Resources

The area is highly scenic and falls within a Class II visual resource management category. A Class II area is one where changes in any of the basic elements (form, line, color, or texture) caused by management activity should not be evident in the characteristic landscape.

1. The first part of the report deals with the general situation of the country and the position of the various groups of the population.

2. The second part of the report deals with the economic situation of the country and the position of the various groups of the population.

3. The third part of the report deals with the social situation of the country and the position of the various groups of the population.

4. The fourth part of the report deals with the cultural situation of the country and the position of the various groups of the population.

5. The fifth part of the report deals with the political situation of the country and the position of the various groups of the population.

6. The sixth part of the report deals with the international situation of the country and the position of the various groups of the population.

7. The seventh part of the report deals with the future of the country and the position of the various groups of the population.

#### IV. Environmental Consequences

##### A. Proposed Action

###### Air

Prescribed burning would cause a temporary (1-3 day) reduction in visibility during the period of the burn each year. Winds would disperse the smoke created by the burns shortly after the completion of the burn in a fashion that would meet or exceed smoke dispersion requirements under the clean air act.

###### Water

Impacts of fire on water are largely secondary, resulting from fire's impact on vegetation. A slight increase in sediment would be expected to reach perennial waters in the project area. The impact on water should not be significant due to the scattered locations of the burn and buffers created by leaving riparian areas unburned.

###### Soils

Initially, erosion rates may increase, however, this increase is expected to be minimal due to the nature of the soil and because the amount of physical disturbance to the soil structure would be inappreciable. Erosion rates would decrease as cover reached pre-burn levels. Revegetation of a spring burn would probably occur within 30 days of the burn.

Vegetative cover would meet or exceed preburn measurements within two to three years.

Although these soils are classified in the moderate to severe erosion hazard, field examination of the Duck Creek wildfire of September 1974 did not indicate any notable erosion problems.

###### Vegetation

The resistance of plants to fire varies greatly between species, but also depends heavily on fire conditions, specifically high intensity and duration. Big sagebrush is a non-sprouter and is highly susceptible to fire injury through the killing of the cambium layer at the base of the stem. Sprouting shrubs and trees, such as snowberry, serviceberry, and rabbitbrush generally have high survival and increased production because they can sprout from lower depths of the stem. For the sprouting species, it is important to have good soil moisture to assure a high percentage of survivability. Soil moisture would normally be highest in the spring. Due to the current low biomass production of rabbitbrushes in the burn units, resprouting of these species should not occur in significant quantity to inhibit regrowth of bunchgrasses. Reestablishment of big sagebrush after the fire would depend upon

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2. The second part of the report deals with the specific work done during the year. It is divided into three main sections: the first section deals with the work done in the field of research, the second section deals with the work done in the field of teaching, and the third section deals with the work done in the field of administration.

3. The third part of the report deals with the financial situation of the institution. It is divided into two main sections: the first section deals with the income of the institution, and the second section deals with the expenditure of the institution.

4. The fourth part of the report deals with the general conclusion of the year's work.

5. The fifth part of the report deals with the general conclusion of the year's work.

6. The sixth part of the report deals with the general conclusion of the year's work.

7. The seventh part of the report deals with the general conclusion of the year's work.

big sagebrush seed sources and the rate at which other species reoccupy open areas that previously supported big sagebrush. Big sagebrush would not be expected to reinvade the sites in significant densities for a minimum of ten years.

Reduced production of grass and forb species would be expected to be minimal and short term. Bluebunch wheatgrass production would return to pre-burn production in 1 to 3 years and possibly double production in future years. Burn plan objectives and prescription would be written to protect more fire sensitive species.

Production of true mountain mahogany, bitterbrush, and serviceberry were monitored during the Cook et al. (1989) study. Production of true mountain mahogany plants appeared to decline the first year after fire but was followed by rapid recovery. Cook et al. (1989) found that spring burns enhance initial recovery of shrubs, particularly bitterbrush and serviceberry showed high survival and profound production increase on a per-plant basis.

Cook's et al. (1989) data suggests that cool spring burns will benefit perennial grasses but burns in other seasons may have variable effects.

Prescribed burning would reduce pine regeneration and have pruning effect on the lower branches of larger trees, with a crown base at or below fire height. Reestablishment of pine regeneration would take a minimum of 15 years, depending upon available seed source and microclimate.

#### Wildlife

The burn would improve forage quality, palatability, availability, and increase big game use of the area by bighorn sheep and elk. Mule deer use of the area may decline slightly for a short period if a reduction in the density of shrubs (serviceberry, mountain mahogany, and bitterbrush) occurs.

Burning in a mosaic pattern would provide uneven aged forage classes, thus perpetuating accessible high quality forage for bighorn sheep.

Burning can improve production and palatability of important big game forage species in grasslands (Peek et al. 1979). Burning of standing dead, dry, leached litter will remove a barrier to grazing of green forage, consequently improving palatability and availability (Hobbs and Spowart 1984). Hobbs and Spowart (1984) found that prescribed burning elevated the concentration of protein and in vitro digestible organic matter in winter diets of mountain sheep and mule deer feeding in grassland communities. Anderson (personal communication 1984) found a crude protein increase of approximately 65 percent occurring the first year following a burn for bluebunch wheatgrass with a subsequent return to near pre-burn levels three years following the burn.



1. The first part of the report deals with the general situation of the country and the position of the various groups of the population. It is a very general and superficial treatment of the subject, but it is a good starting point for a more detailed study.

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8. The eighth part of the report deals with the internal security of the country. It is a very general and superficial treatment of the subject, but it is a good starting point for a more detailed study.

9. The ninth part of the report deals with the education of the country. It is a very general and superficial treatment of the subject, but it is a good starting point for a more detailed study.

10. The tenth part of the report deals with the health of the country. It is a very general and superficial treatment of the subject, but it is a good starting point for a more detailed study.

11. The eleventh part of the report deals with the environment of the country. It is a very general and superficial treatment of the subject, but it is a good starting point for a more detailed study.

12. The twelfth part of the report deals with the future of the country. It is a very general and superficial treatment of the subject, but it is a good starting point for a more detailed study.

Hobbs and Spowart (1984) found in their study that the effects of fire on diet quality resulted from changes in ungulate diet selection rather than improvements in the quality of individual forages. Differences in the amount of green grass in ungulate diet accounted for much of the enhancement in diet quality in this study. Irwin and Cook (1987) believe that the increased availability of green grasses and forbs following wildfire in the North Platte River Valley would benefit bighorn sheep.

New spring growth has been shown to start several weeks earlier on burned areas, than on unburned range, consequently such burned ranges are preferred over unburned ranges by wildlife and livestock (Daubenire 1968). With the improved palatability and earlier new spring growth on burn areas bighorn sheep and elk would prefer burned areas over unburned areas. Significantly heavier ungulate use can be expected to occur for the first few years on the burn areas, as compared to the unburned rangelands, but would decline with time (Peek et al. 1979).

Sheep movement is somewhat restricted by the presence of ponderosa pine. The reduction of pine regeneration and the limb pruning of larger trees would improve visibility and provide more secure migration corridors for bighorn sheep.

Conducting the burn would displace animals currently using the area in the short term. A temporary loss of forage would occur from the burn, but would be short term with the start of spring growth or fall regrowth.

The proposed burns are located in high use areas and adjacent to escape terrain and nursery areas. Spring burns appear to cause the least mortality of desirable resprouting deciduous shrubs which are major constituents of the sheep's diet in late summer and fall (Cook et al. 1989), therefore benefitting lactating ewes. During the summer ewes with lambs are dependent on rock outcrops. Cook et al. (1989) found that ewes on Douglas Creek left burned areas with high quality forage one week prior to lambing and went to nursery areas with a poorer quality forage. Stagnation of sheep populations in the Encampment herd has been highly attributed by (Cook et al. 1989), to poor summer/fall diet resulting in poor resistance to disease and consequential high lamb mortality. Horejsi (1972) found that the nutritional plane of the ewe affects colostrum quality, which in turn can affect resistance of lambs to viral and bacterial infections. Therefore, with increased forage quality, near nursery areas, lamb growth and survival could also increase.

#### Visual Resources

A visual resource contrast rating was written for the proposed burns. Contrast ratings assess how the proposed action would affect the basic elements (form, line, color, and texture) of the

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existing landscape features. These ratings are then compared to maximum acceptable impact limits for a VRM Class II area. It was determined that the visual resources would only be temporarily affected and that the class would not change (Visual Resource Contrast Rating - Attachment No. 2).

B. Alternative

1. No Action

The impacts projected for the proposed action would not occur. With the selection of the no action alternative forage quality and availability would continue to be in a degraded state for the maintenance of the Laramie Peak bighorn sheep herd. The current downward trend of the population may continue until the population is unable to maintain itself. If the bighorn sheep population is unable to maintain itself, opportunities for hunting and sightseeing of the bighorn sheep would be lost.

2. Burn the proposed area in the fall

If the fall burn alternative were implemented rather than the spring burn, the degree of control over the burn would be greatly reduced and the risk of the fire "getting away" increased. Also more manpower would be required as holding forces, with the absence of snow accumulations to act as natural fire breaks.

A fall burn would be of higher intensity than a spring burn, therefore increasing the chance of fire injury and mortality to sprouting shrubs and bunch grasses.

Revegetation of a fall burn would occur following spring thaw and snow melt and could expose unprotected soil to erosion for a 60 to 90 day period. Fall burning would be more likely to cause greater amounts of erosion, than a spring burn, because of runoff from snow melt and a longer period of exposure to water erosion.

All other consequences would be the same as for a spring burn.

V. Irreversible or Irretrievable Commitments of Resources

There are no irreversible or irretrievable commitments of resources with the proposed action. If the no action alternative were selected the present bighorn sheep population may not remain self-sustaining and may require more transplants of bighorn sheep to maintain itself.

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2. The second part of the report deals with the results of the work during the year.

3. The third part of the report deals with the financial statement of the year.

4. The fourth part of the report deals with the general remarks and conclusions.

5. The fifth part of the report deals with the general remarks and conclusions.

6. The sixth part of the report deals with the general remarks and conclusions.

7. The seventh part of the report deals with the general remarks and conclusions.

8. The eighth part of the report deals with the general remarks and conclusions.

9. The ninth part of the report deals with the general remarks and conclusions.

10. The tenth part of the report deals with the general remarks and conclusions.



## VI. Mitigation and Monitoring

- A. The BLM would obtain a "Construction and Improvement Permit" from the Wyoming State Land and Farm Loan Office, with concurrence from True Ranches, lessee of the State Section 36, prior to burning units on state lands. This is provided the proposed action is selected for implementation.
- B. Before an ignition is initiated, the following persons and agencies would be contacted: Albany County Sheriff, Wyoming Highway Patrol, Albany County Fire Department, USFS - Laramie Peak Ranger District, FAA, Wyoming Department of Environmental Quality - Air Quality Division, Wyoming Game and Fish Department, and Jack Nixon, private land owner adjacent to planned burns.
- C. Buffer zones of undisturbed vegetation at least 100 feet wide would be left along water courses. Guidelines developed by the U.S. Forest Service would be utilized to protect riparian areas.

The following slopes and corresponding buffer zones would be maintained:

<u>Percent Slope Range</u>	<u>Buffer Width</u>
0-20	100
20-30	180
30-40	280
40-50	400
50-60	520

- D. The proposed action would be monitored by the wildlife biologist, Great Divide Resource Area, WGFD, and the University of Wyoming Cooperative Wildlife Research Unit. Monitoring would include: vegetation production and cover, pre- and post-burn, and response of radio telemetered bighorn sheep pre- and post-burn.

## VI. Consultation/Coordination

The following individuals outside the BLM, Rawlins District have been contacted regarding their input into the proposed action.

Terry Killough	Laramie District Supervisor	WGFD
Joe Bohne	Wildlife Biologist	WGFD
Rich Guenzel	Wildlife Biologist	WGFD
Tim Byers	Wildlife Biologist	USFS
Bob Gurney	Habitat Mgmt. Coordinator, Region 3	WGFD
Jim Whalen	Senior Appraiser	WSLO
Bryce Lundell	State Forester	WSLO
Dan Hengel	Research Associate	WCRU
Ray Hunkins	Private Landowner	Wheatland
Toby Wingert	State Land Lessee	True Ranches
Don Sherard	Private Landowner	Wheatland

1. The first part of the report deals with the general situation of the country and the position of the various groups.

2. The second part of the report deals with the economic situation and the position of the various groups.

3. The third part of the report deals with the social situation and the position of the various groups.

4. The fourth part of the report deals with the political situation and the position of the various groups.

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6. The sixth part of the report deals with the religious situation and the position of the various groups.

7. The seventh part of the report deals with the legal situation and the position of the various groups.

8. The eighth part of the report deals with the administrative situation and the position of the various groups.

9. The ninth part of the report deals with the military situation and the position of the various groups.

10. The tenth part of the report deals with the foreign relations and the position of the various groups.

11. The eleventh part of the report deals with the internal security and the position of the various groups.

12. The twelfth part of the report deals with the education and the position of the various groups.

13. The thirteenth part of the report deals with the health and the position of the various groups.

14. The fourteenth part of the report deals with the labor and the position of the various groups.

15. The fifteenth part of the report deals with the housing and the position of the various groups.

16. The sixteenth part of the report deals with the transportation and the position of the various groups.

17. The seventeenth part of the report deals with the communication and the position of the various groups.

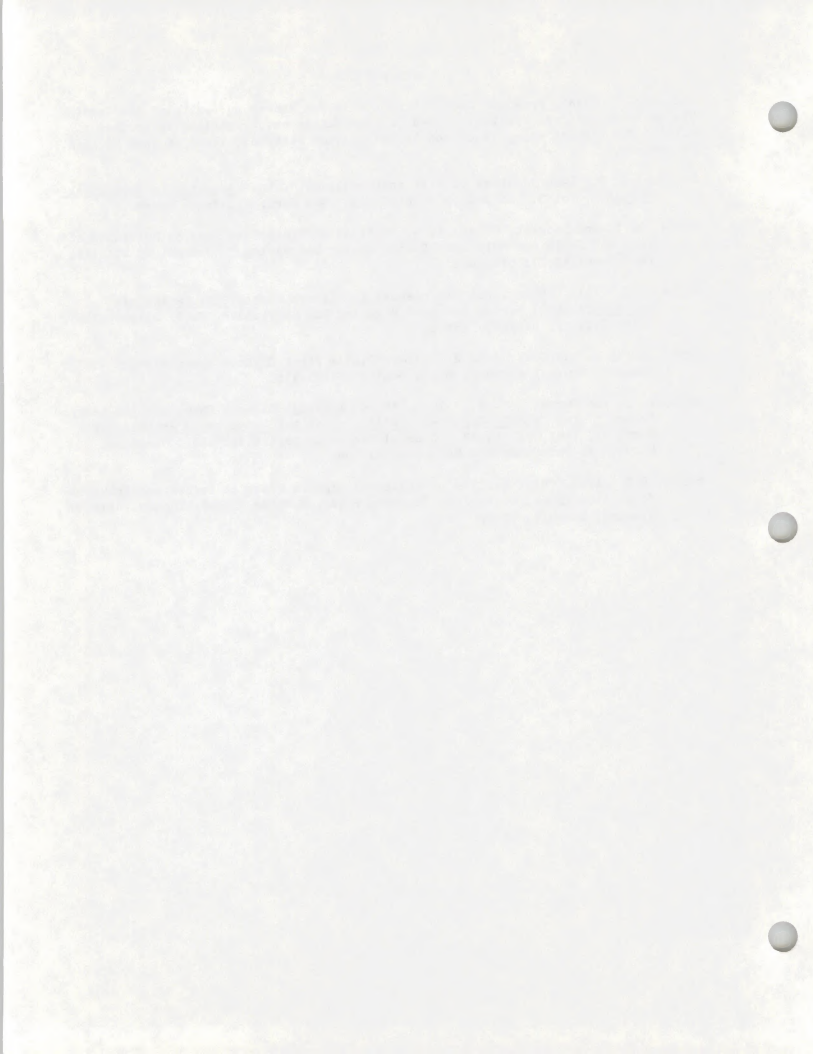
18. The eighteenth part of the report deals with the energy and the position of the various groups.

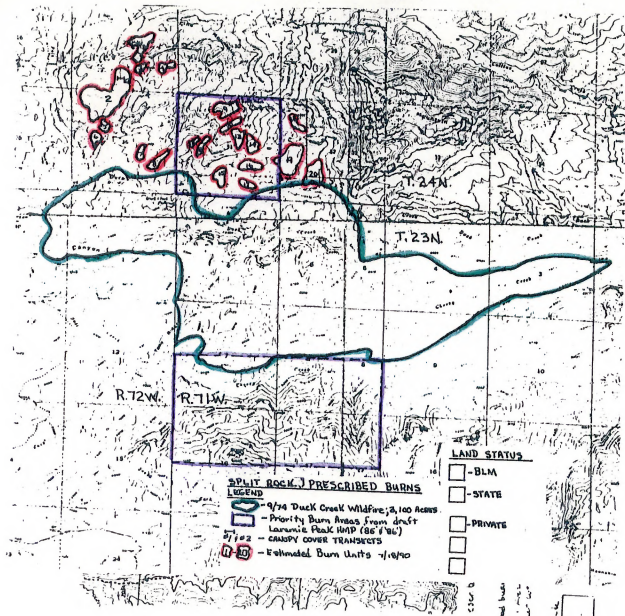
19. The nineteenth part of the report deals with the environment and the position of the various groups.

20. The twentieth part of the report deals with the future and the position of the various groups.

# REFERENCES

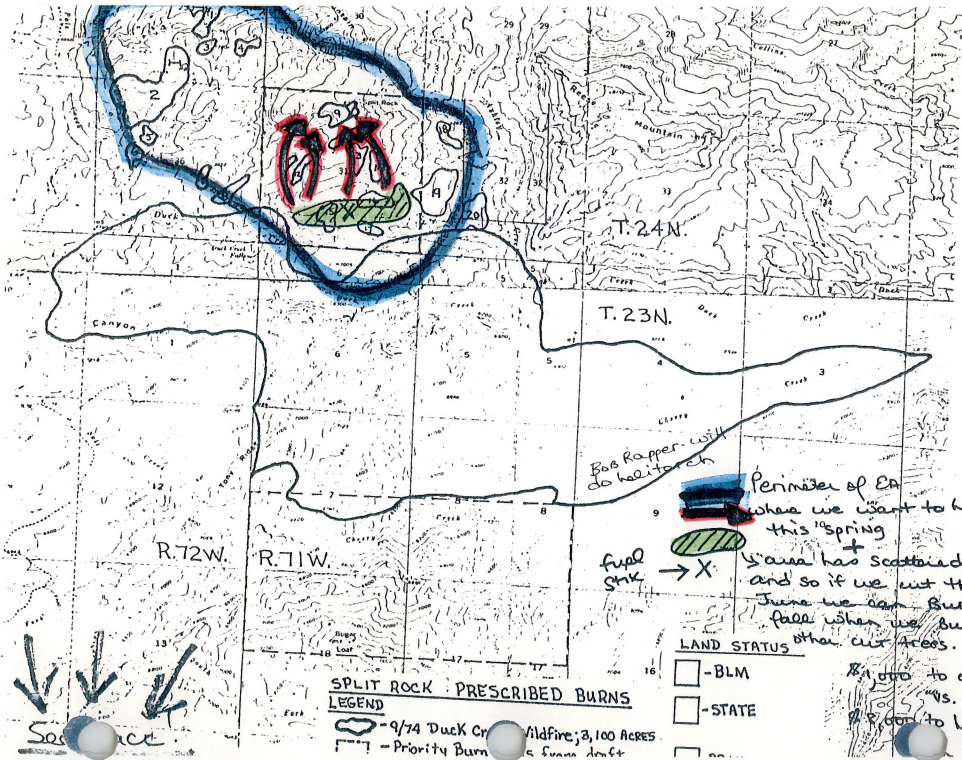
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- Smith, S.G. 1988. "Diet quality of Wintering Bighorn Sheep on Burned and Unburned Vegetation Types, South Fork Shoshone River, Wyoming." M.S. Thesis, Univ. of Wyoming, Laramie, 95 pp.

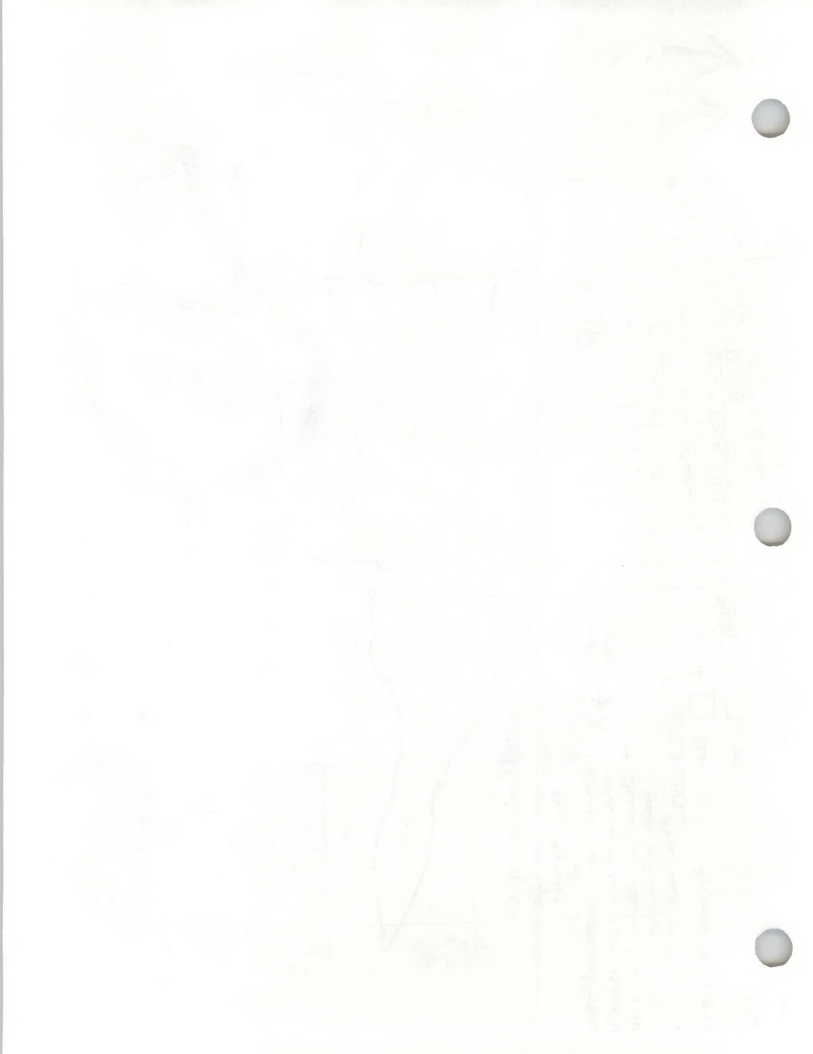












Decision Record/Rationale  
WY-037-EA0-03b  
Split Rock Prescribed Burns

I. Proposed Action

The proposed action is to prescribe burn in the late winter or spring approximately 400 acres. Burns would be conducted by common mechanical means. If weather is suitable, burns should occur in the spring of 1991. Primary objective of the burn is to improve habitat conditions for the Duck Creek subherd of the Laramie Peak bighorn sheep herd.

The proposal is located in T. 24 N., R. 72 W., Section 25 and 36 and T. 24 N., R. 71 W., Section 31. The proposed action is consistent with the the Great Divide Resource Management Plan.

II. Alternatives Considered

A. Preferred Alternative

The proposed action is the preferred alternative.

B. Other Alternatives

1. No Action.
2. Burn The proposed area in the fall

III. Decision and Rationale

The decision is to implement the proposed action as identified in the attached EA (WY-037-EA0-03b).

The action will provide a higher quality and quantity of available forage for the bighorn sheep using the Split Rock Mountain and Duck Creek areas during the spring, summer, and fall seasons.

IV. Conclusions

based on the attached EA analysis, there is sufficient data to support a Finding of No Significant Impact (FONSI). There are no irreversible or irretrievable commitment of resources. No resource or environmental values will be substantially impacted by the proposed action. Therefore, no EIS is necessary.

V. Mitigation and Monitoring

Mitigation identified in the EA, Section VI, will be used.

Acting J. M. H. Webb  
Area Manager, Great Divide Resource Area

4/18/91  
Date

## RANC AND IMPROVEMENT PROJECT SYST. (RIPS)

1. Improvement Number 926257 \* 2. State NY \* 3. Office 037 \* 4. Construction Year 1996  
Improvement Name SPLIT ROCK PRISC BURIN \* 5. Improvement Code VM  
Construction Code N 8. Construction Agreement I  
\* 9. Type Plan 3 \* 10. Type Habitat T \* 11. Principal Mgt. Objective 13  
\* 12. Primary Units 247+0 \* 13. Geo County Albany  
14. Secondary Units + \* 15. Geo State NY  
\* 16. Meridian 06  
\* 17. Township 024 N \* 18. Range 071 W  
20. Subdivision            21. Lat Deg         
22. Lat Min         
23. Lat Sec + 24. Long Deg         
25. Long Min         
26. Long Sec + 27. Project 1         
28. Project 2

### Improvement Details

- |                              |                          |                            |                          |                          |                          |                          |
|------------------------------|--------------------------|----------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 29. Fence Type               | <input type="checkbox"/> | 30. Misc Facilities        | <input type="checkbox"/> | 31. Plant Control Method | P                        | F                        |
| 32. Chemical Type            | <input type="checkbox"/> | 33. Seeding Method         | <input type="checkbox"/> | 34. Species Benefitted   | B                        | G                        |
| 35. T & E Species            | <input type="checkbox"/> | 36. Plant Spec/1           | <input type="checkbox"/> | 37. Plant Spec/2         | <input type="checkbox"/> | <input type="checkbox"/> |
| 38. Animal Spec/1            | O                        | V                          | C                        | A                        | <input type="checkbox"/> | <input type="checkbox"/> |
| 41. Water Storage            | <input type="checkbox"/> | 39. Animal Spec/2          | C                        | E                        | E                        | L                        |
| 42. Watershed Tillage Method | <input type="checkbox"/> | 40. Water Dev/Control Code | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 43. Water Filing Number      | <input type="checkbox"/> | <input type="checkbox"/>   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 44. Undefined Field/1        | <input type="checkbox"/> | 45. Undefined Field/2      | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Remarks                      | SPRING PRESCRIBED BURN   |                            |                          |                          |                          |                          |

### Management Units

47. Line Nr   
48. Allot Number   
49. Watershed Mgt Area   
50. Wildlife Mgt Area   
51. WH&B Herd Mgt Area

### BLM Costs

- | 52. Sub-Activity | 53. Contract | 54. Materials | 55. Equipment | 56. Labor | 57. Work Month |
|------------------|--------------|---------------|---------------|-----------|----------------|
| 4351             |              |               |               |           |                |
|                  |              |               |               |           |                |
|                  |              |               |               |           |                |
|                  |              |               |               |           |                |

### Cooperator Contributions

- [illegible]

### Maintenance Record

- \* 64. Maintenance Agreement  1
65. Date Last Inspected
- \* 66. Maintenance Cycle  25
67. Primary Units ☒
68. Secondary Units ☒
69. Fiscal Year Maintained

**Enter Maintenance Costs in Subactivity 9: Contributor Section.**



# REQUEST FOR CULTURAL RESOURCES DETERMINATION

## Part A (To be filled out by applicant)

Project Name: Split Rock Prescribed Burns

Case No.: CA NO. WY-037-EAD-038

Applicant: Mary Read

Date Inventory Determination Requested 2-25-94 By: M. Read

Location: T. 24 N., R. 71 W., Sec. 31, 1/4, 1/4  
 T. 24 N., R. 72 W., Sec. 25, 1/4, 1/4  
 T. 24 N., R. 72 W., Sec. 36, 1/4, 1/4  
 T.    N., R.    W., Sec.   , 1/4, 1/4

USGS Quadrangle: Davidson Flats, Reese mt.

(attach quad map with proposed project delineated)

County: Albany

Project Description: Prescribe burn sagebrush/grass in spring and  
Indagapik pine (sects killed) / felled timber in the fall.

Date Project Needed: 5-1-94

## Part B

☒ Class III Inventory will be required for this project.

☐ Class III Inventory will not be required for this project.

J. DeMarney 2-25-94  
 Area Archaeologist, Great Divide

## Part C: Section 106 Status

\_\_\_\_\_ Date report received

Cultural resources found ☐ Yes ☐ No

N.H. eligible resources found? ☐ Yes ☐ No

SHPO concurrence ☐ Yes Date \_\_\_\_\_ ☐ No ☐ Not necessary

Cultural clearance ☒ Yes ☐ No

Stipulations: No ground disturbing activity allowed

J. DeMarney 2-25-94  
 Area Archaeologist, Great Divide

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date 7-17-90  
District Rawlins  
Resource Area Great Divide  
Activity (program) 4351

SECTION A. PROJECT INFORMATION

1. Project Name <u>SP-IT Rock</u> <u>Back Creek Prescribed Burns</u>		4. Location Township <u>24 N.</u> Range <u>32 W.</u> Section <u>25</u>	5. Location Sketch <u>See map in EA.</u>
2. Key Observation Point <u>None</u>			
3. VRM Class <u>II</u>			

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	<u>Extremely rugged terrain with rocky outcrops.</u>	<u>Scattered pine, sagebrush and grass pockets; shrub pockets</u>	<u>None</u>
LINE	<u>mountainous, irregular</u>	<u>scattered, irregular</u>	<u>—</u>
COLOR	<u>grays, beiges, browns</u>	<u>beiges, browns, greens, grays</u>	<u>—</u>
	<u>coarse</u>	<u>coarse</u>	<u>—</u>

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	<u>No change.</u>	<u>conduct prescribed burns on about 20 small, irregularly shaped units on BLM, state, &amp; private lands.</u>	<u>None</u>
LINE	<u>—</u>	<u>irregular</u>	<u>—</u>
COLOR	<u>—</u>	<u>blacks, browns - short term browns, greens, beiges, grays - long term</u>	<u>—</u>
TEXTURE	<u>—</u>	<u>smooth to gently coarse</u>	<u>—</u>

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST	FEATURES												2. Does project design meet visual resource management objectives? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (Explain on reverse side)	
	LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)					
	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None		
	Form				X								X	3. Additional mitigating measures recommended <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Explain on reverse side)
	Line				X								X	
	Color				X								X	
	Texture				X	X							X	
EVALUATOR'S NAMES													Date	
<u>Shirley Byrd-Lech</u>													<u>7-17-90</u>	

DETERMINATION AND EVALUATION  
OF NEED FOR CONSULTATION

To: Area Manager, Great Divide R.A.  
From: Wildlife Biologist  
Subject: Request for Threatened or Endangered Species Evaluation  
(Effect/No Effect) and Biological Evaluation on Other Wildlife  
Species

Please evaluate the proposed action for the possible existence of threatened or endangered species (see attached map). Also, please evaluate proposed action for conflicts with other wildlife species.

Project or

Company Name (if applicable) Split Rock Prescribed Burns

Reference No. (lease, case, project, EAR, etc.) WY-037-EAO-038

Location: T.24N., R.71W. E. R.72W.

Description of Proposed Action:

Prescribed burn about 247 acres over a 5 year period beginning in the Spring of 1991. Burns will be conducted in the Spring only.

Jason Carter 7/18/90  
(Signature, date)

Response: Data Review and Determination of Impact on Threatened or Endangered Species and/or other wildlife

To: Area Manager, Great Divide

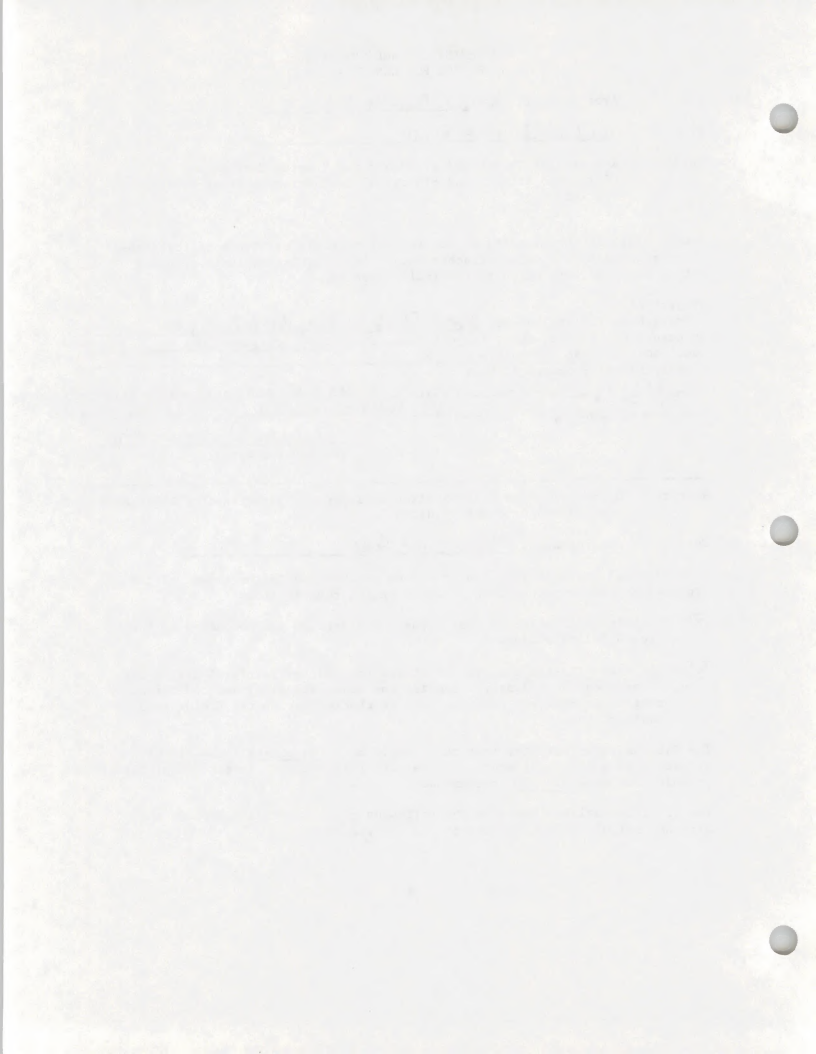
This proposal and relative data have been analyzed as to the impact of the proposed action upon the species listed on the reverse side:

☒ A field examination of the proposed disturbance was conducted by the Area Wildlife Biologist

☒ The Area Wildlife Biologist reviewed the overlay retrieval system for Threatened and Endangered species and other wildlife, and could find no conflict. However, the site will be checked during the field/pre-site examination.

The T&E analysis indicates that there would be a (no effect) ~~(may effect)~~ situation as a result of approving the described action. Initiation of formal consultation ~~(to)~~ (is not) recommended.

The wildlife analysis produced the following results. Please include the attached stipulations indicated on the reverse side:



## APPENDIX XI

Land Use Constraint's Relative to the WGFD's  
"Strategic Plan for the Comprehensive Management of  
Wildlife in Wyoming (1984 - 1989)"



THE CITY OF

OF THE STATE OF

## INTRODUCTION

WYOMING STATUTE 23-1-103 stipulates: All wildlife in Wyoming is the property of the state. It is the policy of the state to provide an adequate and flexible system for control, propagation, management, protection and regulation of all Wyoming wildlife.

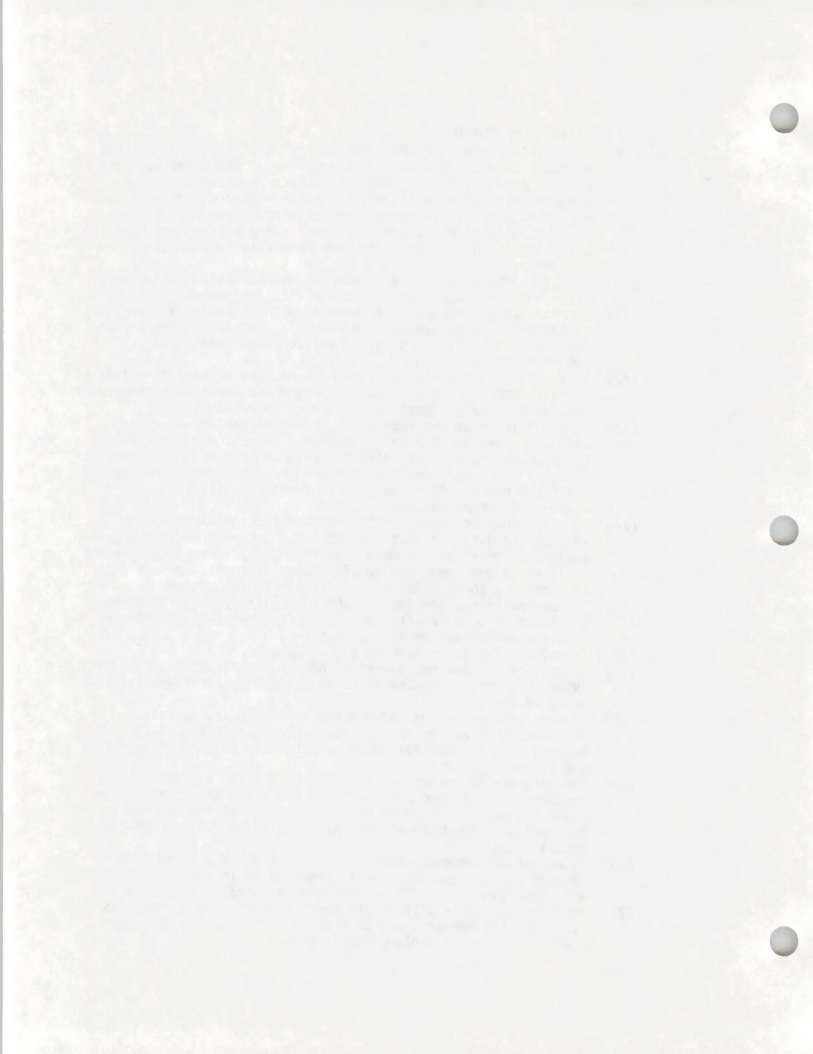
THE WYOMING GAME AND FISH DEPARTMENT, UNDER THE DIRECTION OF THE GAME AND FISH COMMISSION, IS RESPONSIBLE FOR THE FULFILLMENT OF THIS MANDATE. THE EXPRESSED LEGAL CHARGES TO THE COMMISSION AND DEPARTMENT ARE AS FOLLOWS (WYOMING STATUTE 23-1-302):

- (1) To fix season and bag limits, open, shorten or close seasons on any species or sex of wildlife, except predatory animals, predacious birds, protected animals, and protected birds, in any specified locality of Wyoming, and to give notice thereof;
- (2) To establish zones and areas in which trophy game animals may be taken as game animals with a license or in the same manner as predatory animals without a license, giving proper regard to the livestock and game industries in those particular areas;
- (3) To acquire lands and waters in the name of Wyoming by purchase, lease, agreement, gift or devise, not including powers of eminent domain, and to develop, improve, operate, and maintain the same for the following purposes:
  - (a) Fish hatcheries, rearing ponds, game farms and bird farms;
  - (b) Management of game animals, protected animals and birds, fur bearing animals, game birds, fish and their restoration, propagation, or protection;
  - (c) Public hunting, fishing, or trapping areas as places where the public may hunt, trap, or fish in accordance with laws;
- (4) To acquire easements and construct suitable access roads leading to public lands and department lands and waters acquired pursuant to Section 23-1-302 (c) of the Statutes;
- (5) To sell or exchange land, water, or other property which is no longer of any practical use to the commission;
- (6) To capture, propagate, transport, buy, sell, or exchange any species of game animals, bird, fish, fish eggs, or fur bearing animal needed for propagation or stocking purposes, and to exercise control over undesirable species and protected species;
- (7) To direct the capture of any of the wildlife of Wyoming in localities where species are abundant and to transport and distribute any wildlife as in the judgment of the commission is for the best



interest of Wyoming;

- (8) To authorize the Chief Game Warden or his designee to kill any wildlife in Wyoming when in the judgment of the commission the killing is necessary or when the animals or birds are doing substantial damage to property. The animals or birds so killed may be sold or otherwise disposed of within Wyoming;
- (9) To make suitable provisions for the feeding of the game animals, birds, and fish of Wyoming in such localities as may be deemed necessary;
- (10) To enter into cooperative agreements with educational institutions and other agencies to promote wildlife research;
- (11) To enter into cooperative agreements with federal agencies, corporations, associations, individuals, and landowners for the development of state control of wildlife management and demonstration projects;
- (12) To supervise the protection, management, and propagation of fish and all fish culture of a public nature and the fish hatcheries now owned or established in the future by Wyoming;
- (13) To grant licenses for scientific or educational purposes to capture, take, or ship out of Wyoming, under the supervision of the commission, such wildlife or nests or eggs of non-predacious birds as the commission may deem proper. The commission shall limit the number of any species so taken and establish appropriate compensation;
- (14) To prescribe the requirements and form for the licenses and tags provided for in this act, to issue licenses under the provisions of this act, to make regulations for the sale and record of licenses and tags, and to distribute licenses and tags only to persons authorized by the commission to issue them;
- (15) To require record keeping and the submission of reports of any specified information from any type of commercial operation or business authorized under this act;
- (16) To provide for the enforcement of this act;
- (17) To provide for the employment of office and field help to administer this act. Salaries shall be determined and fixed as provided by law;
- (18) To open game preserves for hunting when they are overstocked or a serious shortage of feed exists. These preserves shall be so managed that they do not cause overstocking or other damage to the surrounding area;
- (19) To designate as protected, game, or predatory, any species not designated in Section 23.1-1 of the Statutes, and to establish rules and regulations necessary for control of the species so designated. The designations may apply to portions of or the entire state;
- (20) To authorize the collection, classification, and dissemination of such statistics, data and information as in its discretion will tend to promote the objects and purposes of this act;
- (21) To establish check stations to check licenses and to establish kill or catch reports, and to designate the location of check stations in yearly hunting regulations;





- (22) To promulgate such orders as the commission considers necessary to carry out the intent of this act;
- (23) To create new divisions or abolish any existing divisions within the department as necessary to effectively administer and enforce this act;
- (24) To approve and make public budgets and establish policy for the department;
- (25) To regulate the use of power vehicles on land owned or leased by the commission;
- (26) To regulate or prohibit the importation of exotic species, small game animals, fur bearing animals, protected animals, game birds, migratory birds, protected birds, and fish into Wyoming, and to regulate the importation of big or trophy game animals into Wyoming;

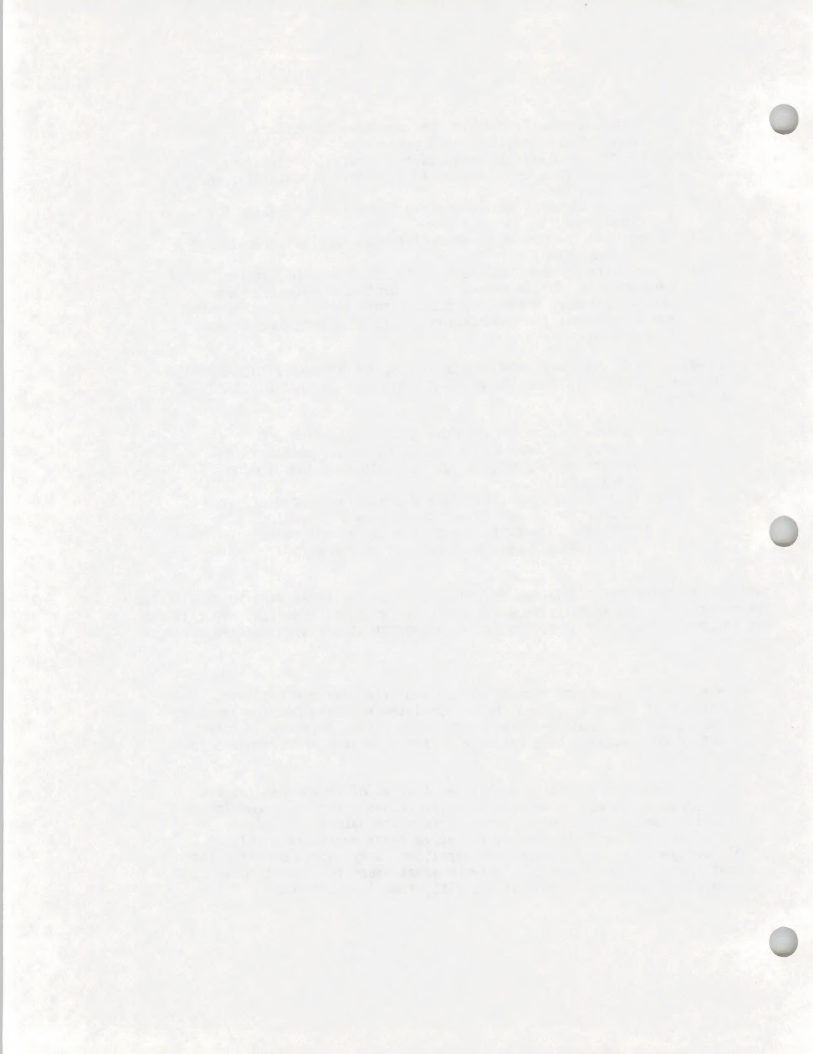
IN ADDITION TO THE ABOVE POWERS AND DUTIES, THE WYOMING LEGISLATURE, THROUGH STATUTES 41-13-101 TO 41-13-218 AND 23-2-107 HAS DIRECTED THE DEPARTMENT:

- (a) To provide for and regulate the registration and licensing of watercraft operating on all waterways of Wyoming and to enforce all provisions of the Wyoming Boating Act.
- (b) To institute and coordinate a statewide course of instruction in safety and competency in handling firearms. Toward this end, the Department has instituted a 5-year plan for hunter education.

IMPLICIT IN THESE CHARGES IS THE RESPONSIBILITY OF THE DEPARTMENT TO PROVIDE THE PUBLIC WITH OPTIMUM BENEFITS FROM THE AVAILABLE WILDLIFE RESOURCE. TO THIS END THE FOLLOWING STATEMENT OF POLICY HAS BEEN ADOPTED BY THE WYOMING GAME AND FISH COMMISSION:

*The wide-open spaces of Wyoming are part of the American heritage. The existence of these areas and their associated wildlife has far-reaching significance for human welfare. For people living here and in other areas of the country, this resource offers a measure of personal solace and relief.*

*In this context, it must be emphasized that wildlife and habitat are inseparable. No wild species can be maintained effectively outside of a biotic community in which it can perform its natural functions. Therefore, irreversible changes in native fauna and flora should be discouraged. If such changes are permitted, they should be after the most searching study and then only in areas where the impact on land, water, and wildlife is minimal and mitigation is guaranteed.*



Projections for the future suggest that the human population of the state may more than double between 1970 and 2000. Conservative estimates indicate that the desire for outdoor recreation is likely to triple. This impact will be further compounded by habitat losses associated with increasing human population and industrial development. In the face of these pressures, it is imperative that the Department apply professional expertise in identifying and conserving Wyoming's wildlife resources. This responsibility is twofold: 1) We must strive to protect Wyoming's wild animals and, in general, the natural scene and 2) equally important is the responsibility to provide quality outdoor experience with wildlife.

Toward these ends the following policy objectives will be followed by the Wyoming Game and Fish Department:

1. While recognizing that other legitimate demands exist for the use of land and water resources, it is the statutory responsibility of this Department to be the principal proponent of the maintenance and perpetuation of wildlife in Wyoming.
2. Wildlife conservation within this state is the responsibility of the Game and Fish Commission and the professional function of the Game and Fish Department. However, this is prefaced by the fact that wildlife resources are owned by the people of Wyoming. Therefore, consistent with biological constraints, this resource will be managed with consideration for the interests and desires of the public. Both consumptive and non-consumptive uses of wildlife will be structured to produce desired and worthwhile human experiences.
3. To produce and maintain optimum populations of wildlife on all lands and waters in Wyoming suitable as wildlife habitat and consistent with other uses of such lands and waters and to utilize through hunting and fishing the available crop of those wildlife species appropriately classified by statute.
4. To maintain for all wildlife the best possible habitat conditions consistent with other uses, improve wildlife habitats which are open to the public and encourage private landowners to do the same.
5. To keep wildlife populations in balance with local forage supplies and commensurate with conflicting uses, and manage on the basis of available forage, resorting to artificial feeding only in previously approved on-going programs or on an emergency case-by-case basis.
6. It is a policy of this Department to provide opportunity for the public to take wildlife, but not to guarantee

1. The first part of the report deals with the general situation of the country and the progress of the work during the year. It is a summary of the work done and the results obtained. It is a general statement of the work done and the results obtained.

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fish or game to every license holder.

7. It is a policy of this Department, subject to the existing legal constraints, to control wildlife populations which are damaging land or property with sound programs for public hunting.
8. In areas where species overlap, the primary species will be identified and the major management activities will be directed toward the welfare of the selected species where conflicts exist.
9. It is a policy of this Department to endorse or participate in the regulation of predatory animals only on the basis of documented local wildlife needs.
10. "Put-and-Take" stocking operations have little relationship to the maintenance of wildlife, and they should not be carried on at the sole expense of the general license buyer. It is the Department's position that these operations should be supported by special use fees collected from those who participate in "Put-and-Take" harvests.
11. The importation and use of exotic plants and animals by this Department will be undertaken only after intensive study, appropriate agreements with the agencies concerned and adequate public information. In any case, exotics will be introduced only if they can be controlled.
12. Recognizing that social values derived from wildlife are so great and diverse that it is neither appropriate nor adequate to finance management of this resource entirely from license holders, and realizing these funds will not be sufficient in the future to meet costs of managing the wildlife resources for the people, all additional funding opportunities must be pursued. These will include not only the pursuit of additional funding alternatives but also application of responsible management practices leading to conservation and maximization of results from existing funds.
13. Recognizing that approximately half of the land area of Wyoming is controlled by the Federal Government and thus owned by all the people of the United States, the Department honors the need to insure use opportunity for nonresidents.
14. Regulations governing the use of wild animals will be limited to those regulations essential for the orderly protection, management and enjoyment of the resource.





GREAT PRESSURES ARE BEING BROUGHT TO BEAR ON WILDLIFE RESOURCES AS WYOMING IS DEVELOPED AND COMPETITION FOR LANDS AND WATERS INCREASES. NOW, MORE THAN EVER, FOR THE SERVICE OF AN EVER-INCREASING POPULATION, MANAGEMENT MUST BE FUTURE-FOCUSED AND PURPOSEFUL. MANAGEMENT IN THE PUBLIC INTEREST MUST BE BASED ON AN UNDERSTANDING OF OUR LONG-TERM CAPABILITIES, CHANGING SOCIAL AND ENVIRONMENTAL CONDITIONS, AND THE BEST POSSIBLE APPRAISAL OF EXPECTATIONS FOR THE FUTURE. RESPONDING TO THIS CHALLENGE, THE WYOMING GAME AND FISH DEPARTMENT HAS DEVELOPED A COMPREHENSIVE PLANNING SYSTEM AS AN AID TO DECISION MAKING IN AN EFFORT TO INCREASE DEPARTMENTAL EFFECTIVENESS. THIS SYSTEM IS DESIGNED TO SERVE THE FOLLOWING PURPOSES:

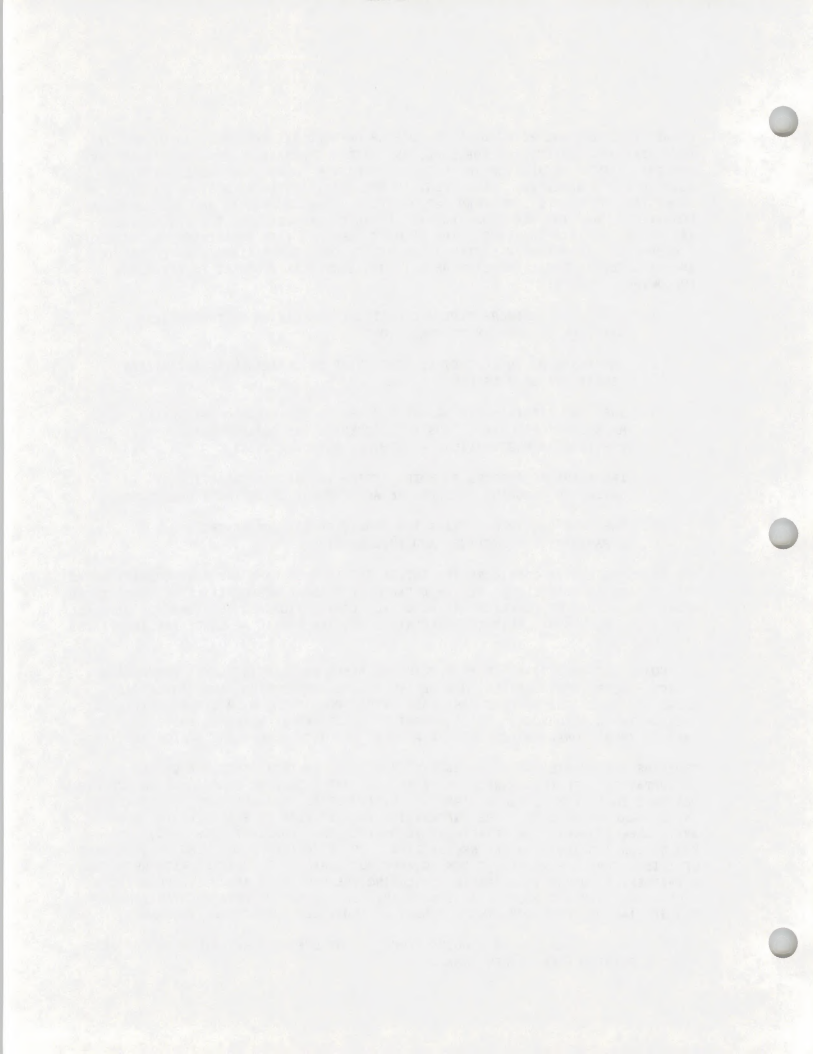
1. IT FORCES COMPREHENSIVE AND CRITICAL EVALUATION OF THE ENTIRE SPECTRUM OF DEPARTMENT OPERATIONS.
2. THE PLANNING PROCESS GIVES CONTINUITY TO DEPARTMENTAL ACTIVITIES REGARDLESS OF PERSONNEL CHANGES.
3. THE PLAN ALERTS OTHER RESOURCE USERS TO THE NEEDS OF WILDLIFE MANAGEMENT PROGRAMS, THUS STRENGTHENING THE DEPARTMENT'S POSITION IN NEGOTIATIONS WITH OTHER RESOURCE USERS.
4. THE PLANNING PROCESS PROMOTES ACTION RATHER THAN REACTION BY ORIENTING PROGRAMS TOWARDS THE ACHIEVEMENT OF DEFINITE OBJECTIVES.
5. THE PLAN PROVIDES A MEANS FOR PUBLIC EVALUATION OF THE DEPARTMENT'S OBJECTIVES AND PHILOSOPHIES.

THE PLANNING SYSTEM CONSIDERS THE ENTIRE SPECTRUM OF GAME AND FISH OPERATIONS AS THEY RELATE TO FULFILLMENT OF THE DEPARTMENT'S LEGAL RESPONSIBILITIES AND STATED POLICIES. AREAS OF CONFLICT AND NEEDS FOR COOPERATION AND COORDINATION WITH ALL LEVELS OF GOVERNMENT, PRIVATE ENTERPRISE, AND THE PUBLIC AT LARGE ARE IDENTIFIED THROUGHOUT.

THE GOALS AND OBJECTIVES IN THIS PLAN ARE BASED ON EXISTING LAWS, COMMISSION POLICY, PROJECTED INCREASES IN WILDLIFE-RELATED RECREATION, AND BIOLOGICAL CAPABILITIES OF THE STATE'S LANDS AND WATERS CONSISTENT WITH OTHER LEGITIMATE USES OF THESE RESOURCES. PUBLIC INPUT IS SOLICITED AT HEARINGS PRIOR TO CHANGES IN REGIONAL OBJECTIVES AND ALSO AT MEETINGS CONCERNING SEASON SETTING.

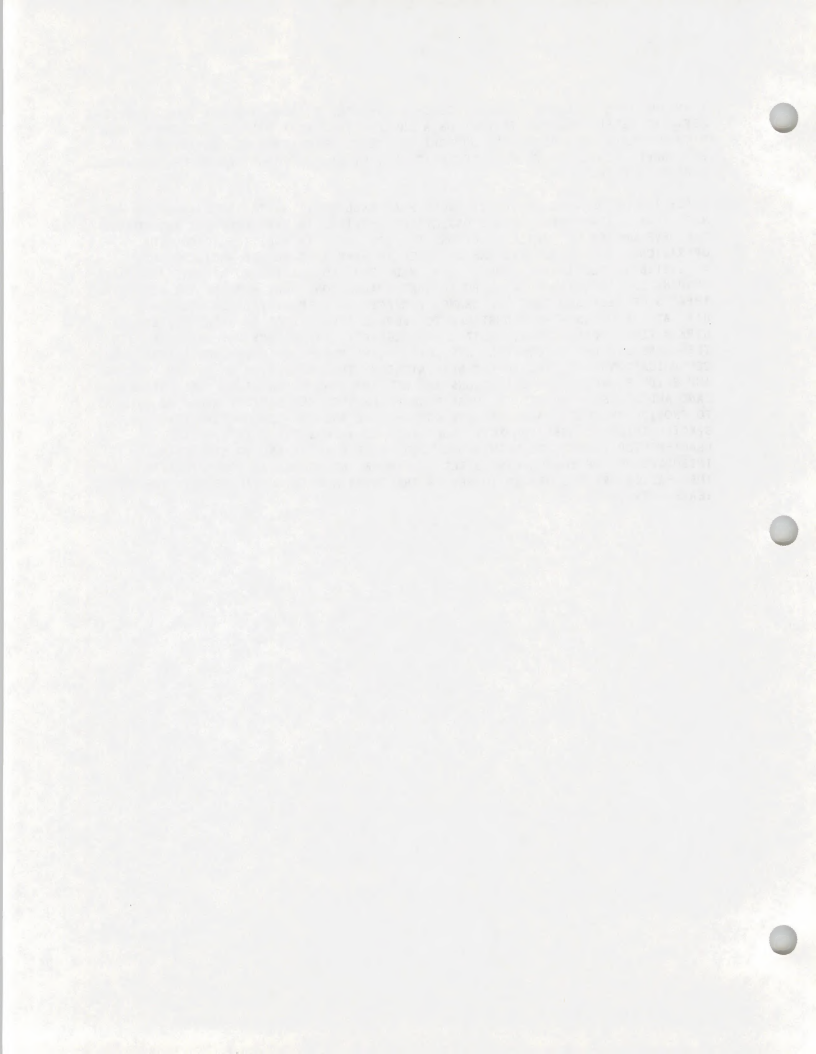
PROBLEMS AND STRATEGIES WERE DERIVED FROM INPUT OF DEPARTMENT PERSONNEL, CONSULTATION WITH LAND MANAGEMENT AGENCIES, AND EXTENSIVE QUESTIONNAIRE SURVEYS. DESIGNED TO DETERMINE THE DESIRES AND ATTITUDES OF RESIDENT HUNTERS, FISHERMEN, AND GENERAL HOUSEHOLDS. THE INFORMATION IN THIS PLAN IS PRESENTLY THE BEST AVAILABLE, HOWEVER, THE DEPARTMENT RECOGNIZES THAT CONSTANT UPGRADING, EVALUATION AND REVISION ARE NECESSITIES. OPPORTUNITIES FOR REVIEW OF THE DRAFT OF THIS DOCUMENT HAVE BEEN GIVEN TO RESOURCE MANAGEMENT AGENCIES WITH WHOM THE DEPARTMENT FREQUENTLY INTERACTS, INCLUDING THE U.S. FISH AND WILDLIFE SERVICE WHOSE GRANTS-IN-AID PROVIDE A SIGNIFICANT PORTION OF THE DEPARTMENT'S FUNDING FOR SPECIAL PROJECTS COVERING A NUMBER OF INDIVIDUAL MANAGEMENT PROGRAMS.

UPDATING OF THE PLAN IS AN ONGOING PROCESS, BUT OFFICIAL REVISIONS OF THE PLAN WILL BE PRINTED EVERY THREE YEARS.



PLANNING IS A VALUABLE TOOL IN RESOURCE MANAGEMENT, BUT LIKE ANY TOOL IT WILL SERVE NO USEFUL PURPOSE IF LEFT ON A SHELF. THIS PLAN WILL BE EFFECTIVE ONLY WITH COMPLETE ADMINISTRATIVE SUPPORT AND COOPERATION FROM ALL DEPARTMENT PERSONNEL, STATE AND FEDERAL LEGISLATURES, OTHER GOVERNMENT AGENCIES, AND THE GENERAL PUBLIC.

UNDER THE GUIDELINES OF THE PREVIOUS PLAN (VOLUME II, 1978-1983) PROGRESS WAS MADE TOWARD ATTAINMENT OF THE OBJECTIVES OUTLINED IN THAT DOCUMENT AND TOWARD THE DEVELOPMENT OF VIABLE SOLUTIONS TO PROBLEMS. IN ADDITION TO ROUTINE OPERATIONS, THE DEPARTMENT WAS INVOLVED IN MANY SPECIALIZED PROJECTS AND ACTIVITIES. CONTINUING APPEALS WERE MADE FOR LEGISLATION TO APPROVE ALTERNATE FUNDING AND INSTREAM FLOW PROPOSALS AND EVALUATIONS WERE MADE OF THE POTENTIAL IMPACTS OF PROPOSED LAND USE CHANGE PROJECTS ON TERRESTRIAL AND AQUATIC HABITAT. STUDIES WERE UNDERTAKEN TO PROVIDE INFORMATION ON SUCH SUBJECTS AS STREAM FLOW, POPULATIONS, HABITAT AND DISEASE. EFFICIENCY WAS IMPROVED WITH THE INCREASED USE OF COMPUTER SYSTEMS IN MANY PHASES OF DEPARTMENT OPERATIONS. COMMUNICATIONS WITH THE PUBLIC WERE AIDED BY THE PRODUCTION OF MOTION PICTURE AND SLIDE SHOWS, NEW PUBLICATIONS AND NEW EDITIONS OF EXISTING PUBLICATIONS. LAND AND ACCESS ACQUISITIONS WERE MADE TO PROTECT KEY HABITAT AREAS AS WELL AS TO PROVIDE RECREATIONAL AREAS FOR CONSUMPTIVE AND NON-CONSUMPTIVE USE. OF SPECIAL INTEREST WERE PROJECTS UNDERTAKEN TO ASSESS THE STATUS OF THE BLACK-FOOTED FERRET, TO REINTRODUCE PEREGRINE FALCONS AND TO MAKE TRIAL INTRODUCTIONS OF FORAGE FISH SPECIES. THOSE INTERESTED IN MORE SPECIFIC INFORMATION ARE ENCOURAGED TO REVIEW THE DEPARTMENT'S ANNUAL REPORTS FOR THE YEARS 1979-1983.





## STRATEGIC PLAN FOR THE WYOMING GAME AND FISH DEPARTMENT

Wildlife found in Wyoming and managed by the Department includes approximately 100 species of mammals, 322 species of birds, 78 species of fish, 12 species of amphibians, 23 species of reptiles, and an undetermined number of mollusk and crustacean species.

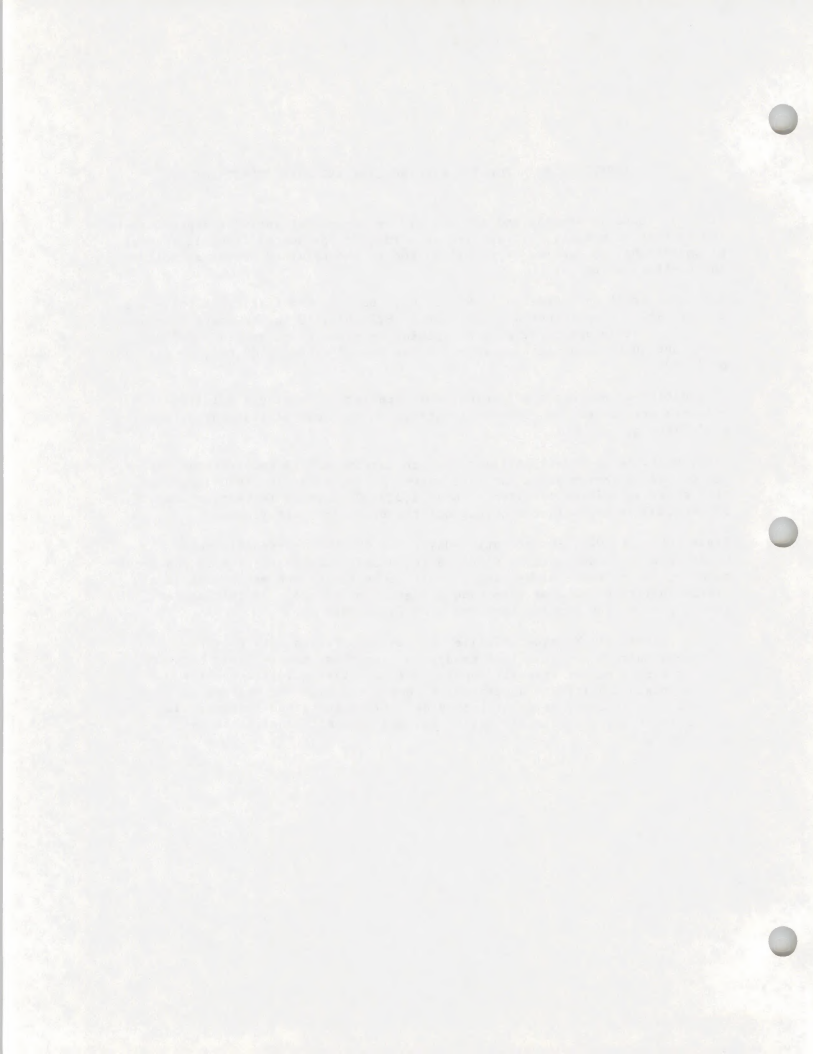
Sportsmen spent an estimated 5,460,227 days hunting and fishing in the state during 1982 and contributed approximately \$223,034,619 to the state's economy. By 1988, hunting and fishing participation is expected to exceed 7,000,000 days, and hunting and fishing expenditures should exceed \$300,000,000 (in 1982 dollars).

In addition to hunting and fishing, some species of Wyoming's wildlife resource are subject to commercial harvest in the form of trapping or commercial fishing.

Also, wildlife is widely utilized in such nonconsumptive endeavors as observation and photography. A national survey conducted during 1980 indicated that these activities resulted in over 1,029,320 days of recreation and \$24,400,000 in expenditures throughout the state for that year.

These totals (1,029,320 recreation days; \$24,400,000 in expenditures) underscore the importance of wildlife resources, both aesthetically and economically, to the state of Wyoming. Their conservation and management is a responsibility of awesome magnitude and great privilege. In this context, it is the goal of the Wyoming Game and Fish Department to:

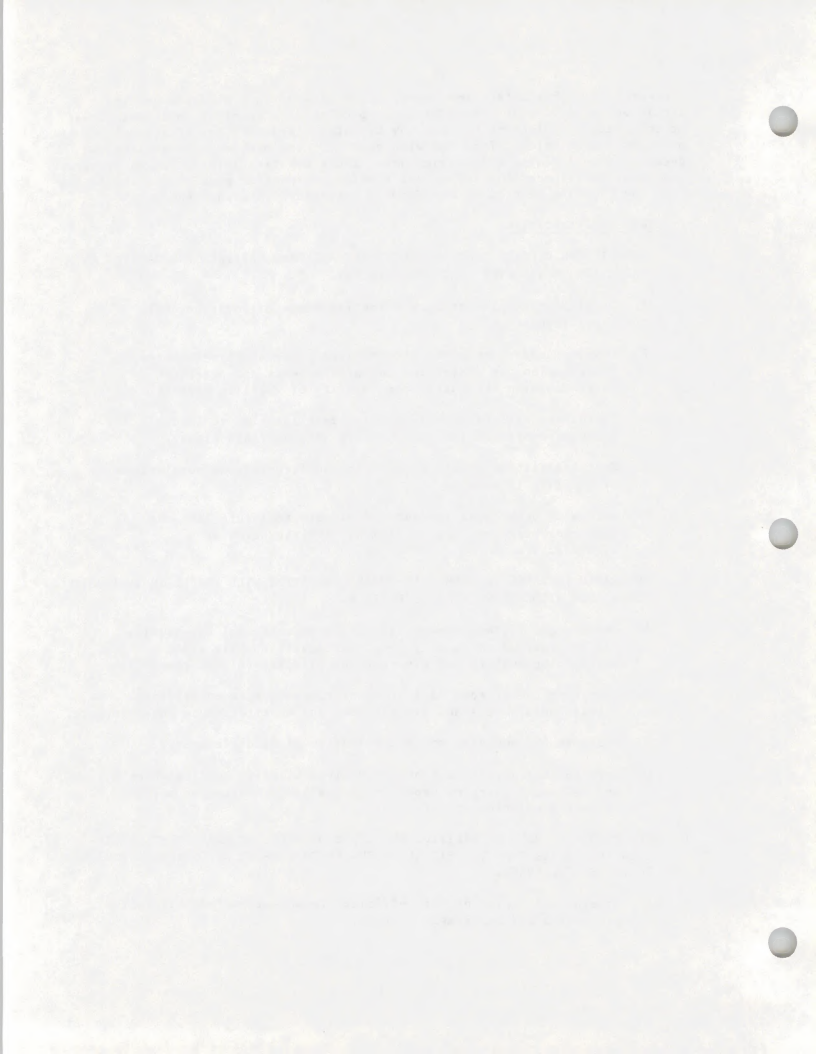
...manage all Wyoming wildlife and, in cooperation with private landowners and public land management agencies, manage their habitats in such a manner that all populations of native wildlife species maintain density and distribution consistent with the welfare of the resource, which will provide optimum sustained recreational, scientific, educational, aesthetic, and economic benefits to the public.



A great many problems face the conservation of Wyoming's wildlife and the attainment of this goal. Many of these problems are specific to certain areas or individual populations but all may be categorized into the 11 general problems listed below. Included with each of these problems are strategies deemed appropriate for addressing them. Those desiring information on problems and strategies concerning individual species or specific populations should contact the Planning Section of the Wyoming Game and Fish Department.

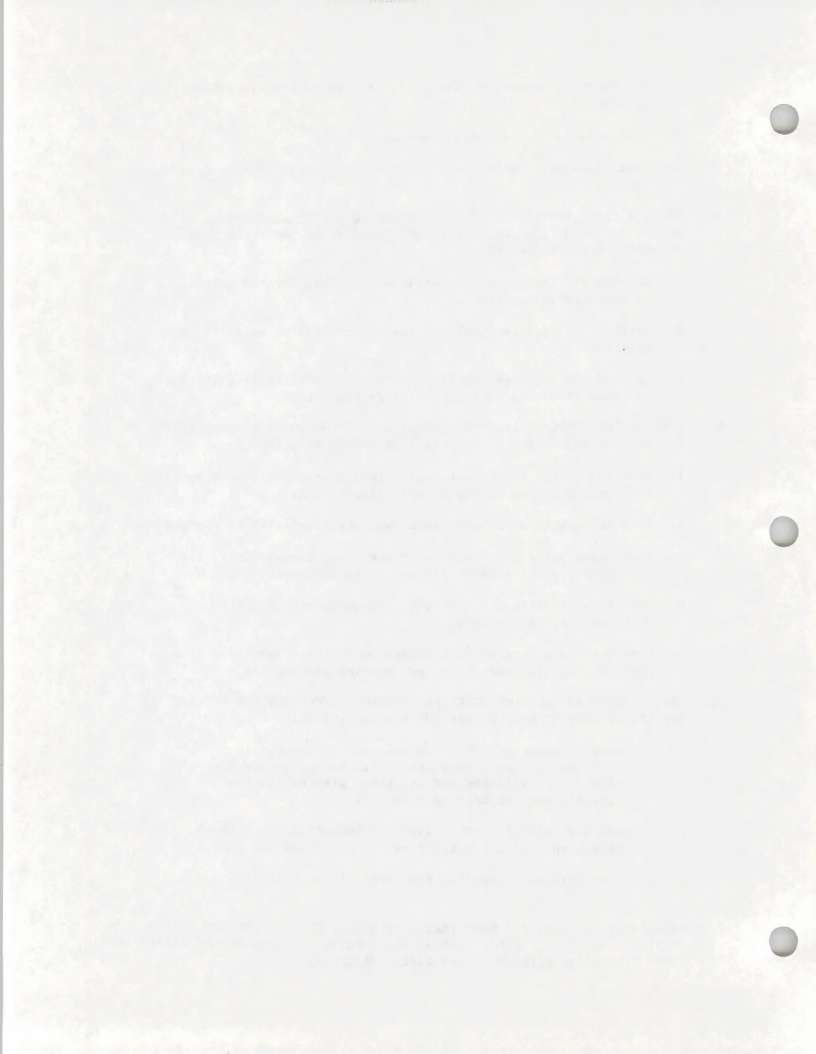
#### Problems and Strategies

1. CONFLICTING USES OF LAND AND WATER ARE ALTERING HABITATS AND CAUSING A REDUCTION IN WILDLIFE CARRYING CAPACITY.
  - A. Develop and implement more effective means of environmental surveillance.
  - B. Develop and/or implement alternatives, preventative measures, compensation, or mitigation for all projects and practices which diminish the quality or quantity of wildlife habitat.
  - C. Coordinate efforts with land management agencies to insure adequate consideration for wildlife in long range plans.
  - D. Seek legislation that insures wild and free-ranging populations of wildlife in Wyoming.
  - E. Work with other agencies and individuals to insure land and water use practices are in harmony with the needs of wildlife.
2. THE RAPID INCREASE IN WYOMING'S HUMAN POPULATION WILL RESULT IN INCREASED DEMAND FOR WILDLIFE-RELATED RECREATION.
  - A. Develop and implement methods whereby recreational opportunity can be provided to as many people as possible while still maintaining quality and diversity of wildlife-related recreation.
  - B. Determine the effects of increasing human impacts on wildlife population dynamics and distribution and work to reduce these impacts.
  - C. Increase the emphasis on redistribution of wildlife users.
  - D. Work to increase populations of desired wildlife species which are below the carrying capacity of available habitat or below current population objectives.
3. THE PROBLEMS, RESPONSIBILITIES AND COSTS OF WILDLIFE MANAGEMENT ARE INCREASING FASTER THAN THE FISCAL RESOURCES TO SUPPORT NECESSARY RESPONSES TO THESE CHALLENGES.
  - A. Develop and implement more efficient technologies, administrative procedures and management systems.

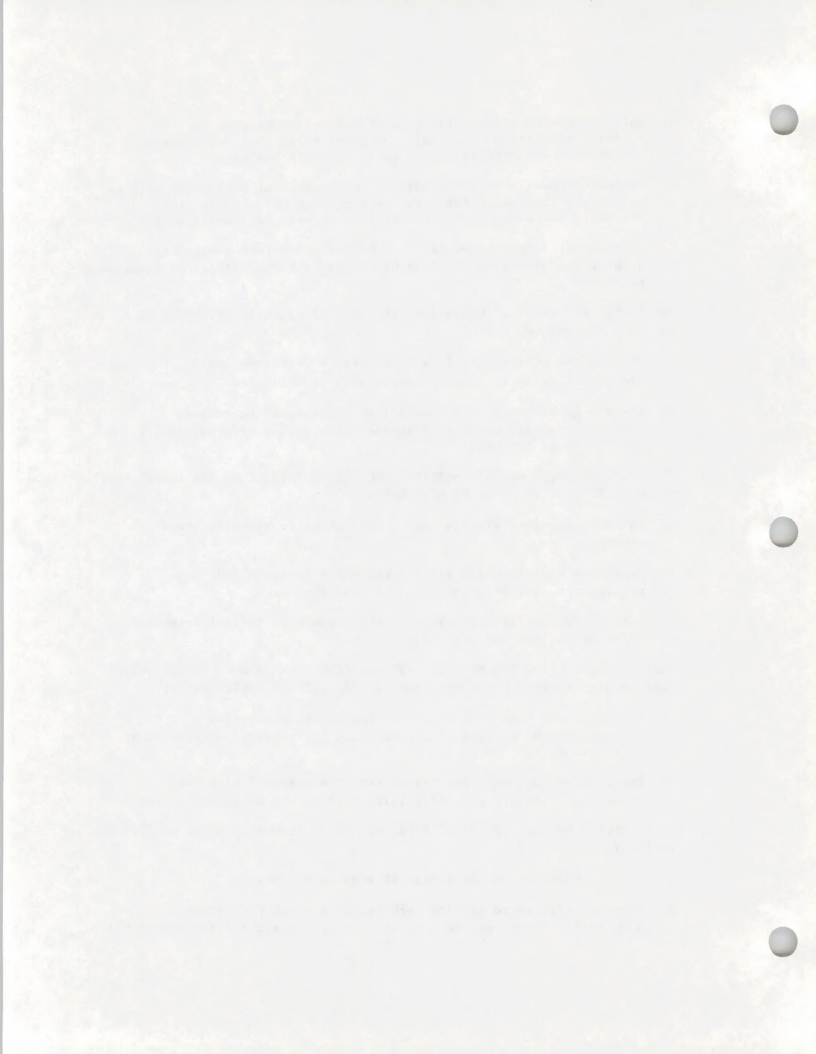


- B. Maintain all Department facilities in the most efficient manner possible.
  - C. Seek sources of additional revenue.
  - D. Seek legislation which provides for more flexibility in Department funding.
4. CERTAIN LANDS AND WATERS OF THE STATE HAVE PHYSICAL, CHEMICAL AND BIOLOGICAL CONDITIONS WHICH ARE NOT CONDUCIVE TO THE PRODUCTION OF DESIRABLE WILDLIFE SPECIES.
- A. Develop and implement more efficient methods for the control of undesirable species.
  - B. Develop and implement methods for the control of wildlife diseases.
  - C. Develop and implement methods to overcome the limiting factors in these areas and increase wildlife production.
5. MUCH OF THE WILDLIFE-RELATED RECREATIONAL OPPORTUNITY IS UNAVAILABLE TO THE GENERAL PUBLIC DUE TO A VARIETY OF ACCESS PROBLEMS.
- A. Work for better Department-public-landowner relations in an effort to increase access on and across private lands.
  - B. Seek acquisitions and easements that are beneficial to the public.
  - C. Seek cooperative agreements with agencies, corporations, and individuals which provide for recreational access.
  - D. Work to increase public interest and awareness in under-utilized areas and species.
  - E. Work with land management agencies to increase awareness of available public lands by proper marking and mapping.
6. MANY MANAGEMENT PROGRAMS SUFFER DUE TO POOR COMMUNICATION BETWEEN THE DEPARTMENT, OTHER AGENCIES AND THE GENERAL PUBLIC.
- A. Increase emphasis on public information and education programs designed to inform the public and other agencies of the needs of wildlife and the principles behind the Department's new and ongoing programs.
  - B. Develop and maintain better lines of communication between the Department and other agencies, corporations and stat-s.
  - C. Give recognition to funding from federal aid programs.
7. MANAGEMENT PROGRAMS ARE SOMETIMES GOVERNED BY ENFORCEMENT AND DAMAGE PROBLEMS, POLITICS, PROTECTIONISM, AND SPECIAL INTEREST GROUPS RATHER THAN SOUND BIOLOGICAL PRINCIPLES AND PUBLIC BENEFITS.





- A. Work to provide administrators with better information on wildlife populations and public preferences so that decisions can be made and justified on a more objective basis.
  - B. Increase emphasis on communicating to the general public, as well as to special interest groups, the requirements of wildlife, the rationale for management actions, and the need for hunter ethics.
  - C. Conduct the research necessary to better understand ecological principles, processes and life histories, and the effects of management actions.
8. THE EXTENT AND VALUE OF NONCONSUMPTIVE USES OF WILDLIFE RESOURCES IS NOT WELL UNDERSTOOD.
- A. Develop the information base necessary to determine the extent and value of nonconsumptive uses of wildlife.
  - B. Develop areas, materials and facilities designed to enhance public enjoyment, understanding and appreciation of wild animals in their natural habitat.
9. SOME PERSONS ABUSE WILDLIFE-RELATED RECREATION PRIVILEGES AND IGNORE LAWS DESIGNED TO PROTECT WILDLIFE RESOURCES.
- A. Maintain an effective law enforcement cadre to minimize these abuses.
  - B. Emphasize hunter ethics and the rationale for laws and regulations in public contacts and publications.
  - C. Seek active public participation and support in the enforcement of wildlife laws and regulations.
10. SOME WILDLIFE USERS DEMAND HIGH COST PROJECTS TO MAINTAIN POPULATIONS OF SOME SPECIES ABOVE THE NATURAL CARRYING CAPACITY OF THEIR HABITAT.
- A. Emphasize the high cost of artificial animal production systems and the possible biological and sociological detriments of these projects.
  - B. Develop and implement methods whereby the users of high cost production projects pay their fair share of the management costs.
11. SOME SPECIES OF WILDLIFE CAUSE PROBLEMS AND/OR ECONOMIC LOSSES ON PRIVATE PROPERTY.
- A. Work to maintain animal damage at a minimum level.
  - B. Continue efforts to develop techniques by which the extent of wildlife damage may be accurately assessed and fairly compensated.



This Strategic Plan for the Comprehensive Management of Wildlife in Wyoming is a part of the planning system developed by the Wyoming Game and Fish Department for structured problem-solving and the attainment of wildlife objectives.

For purposes of organization and clarity, this document is composed of several sections:

I. BIG GAME (pp. 15). This section covers the 10 species of mammalian game classified by state statute as either big or trophy game animals. Antelope, mule deer, white-tailed deer, elk, moose, bighorn sheep and Rocky Mountain goat are managed on the basis of individual populations or herds (a herd is defined as a discrete group of animals which has minimal interchange with adjoining groups of the same species). There are currently 201 identified herds with plans being made for several new divisions. Maps showing the locations of these herds are included with each program narrative that follows.

The remaining species in this category (black bear, grizzly bear, mountain lion) are managed on the basis of individual, administratively determined management areas which are illustrated with the respective program narratives.

Individual inventory files are maintained for each herd/management area. These files contain information on past population trends, current population estimates, management objectives, problems and strategies, supply and demand, harvest statistics, economic value data, distribution, etc. From these files a summary sheet was prepared for each species following the format found in this document. Those wishing more detailed information than that contained herein are urged to contact the Planning Section, Wyoming Game and Fish Department, Cheyenne, Wyoming (307/777-7461).

II. SMALL GAME (pp. 43). This section covers the approximately 50 species of small game birds and mammals. Included are 8 species of upland game birds, approximately 36 species of migratory game birds, and 6 species of small game mammals. Species in this category are managed on the basis of individual, administratively determined management areas. A map showing the locations of these areas precedes the small game section.

Individual inventory files are maintained for each management area. These files contain information on management objectives, problems and strategies, supply and demand, harvest statistics, economic value data, distribution, etc. From these files a summary sheet was prepared for each species (or group of species) following the format found in this document. Those wishing more detailed information than that contained herein are urged to contact the Planning Section, Wyoming Game and Fish Department, Cheyenne, Wyoming (307-777-7461).

III. SPORT FISHERIES (pp. 62). This section covers the management of Wyoming's aquatic resources to provide sport fishing recreation. Sport fisheries are managed on the basis of the major drainages in the state and these are illustrated with the program narrative.

10-1-1964

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Individual inventory statistics are compiled for specific waters within these drainages. These inventories contain information on location, flows, species present, fishing pressure, supply and demand, etc. Those wishing more detailed information than that contained herein are urged to contact the Planning Section, Wyoming Game and Fish Department, Cheyenne, Wyoming (307/777-7461).

IV. OTHER LICENSED USES OF WILDLIFE (pp. 76). This section includes furbearers, commercial fisheries, and raptors. The species included are those which are subject to regulated harvest or capture but not classified as game animals. Inventory files are maintained for each of the programs presented. These files contain information on management objectives, problems and strategies, supply and demand, harvest statistics, distribution, etc. From these files a summary sheet was prepared for each program following the format found in this document. Those wishing more detailed information are urged to contact the Planning Section, Wyoming Game and Fish Department, Cheyenne, Wyoming (307/777-7461).

V. NONGAME WILDLIFE (pp. 83). This section covers nonconsumptive uses of the entire spectrum of wildlife in Wyoming. Over 535 species of vertebrate animals alone are believed to occur within the state during all or part of the year.

Current knowledge of all these species is summarized in several Department publications. Those wishing more detailed information than that contained herein are urged to contact the Planning Section, Wyoming Game and Fish Department, Cheyenne, Wyoming (307/777-7461).

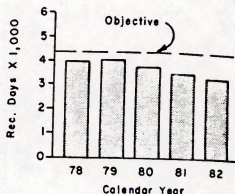
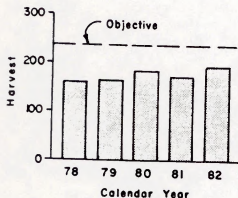


## BIGHORN SHEEP

STATUS AND USE: There are 22 separate herds of bighorn sheep in Wyoming. During the winter of 1982-83 these herds totalled approximately 6,300 animals. They seasonally occupy 9,000 square miles of habitat, of which 1,000 square miles are considered critical. During the 1982 hunting season, 193 bighorn sheep were harvested, providing 3,382 days of recreation.

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### PAST MANAGEMENT STATISTICS



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### 1988 OBJECTIVES

1. To provide a harvest of 238 bighorn sheep.
2. To provide 4,334 sheep hunting recreation days.
3. To maintain a harvest success rate of .46 sheep per license holder.
4. To maintain a hunter effort rate of 18.2 days hunted per sheep harvested.
5. To maintain a wintering population of 7,180 sheep.
6. To maintain at least 9,000 square miles of occupied sheep habitat.

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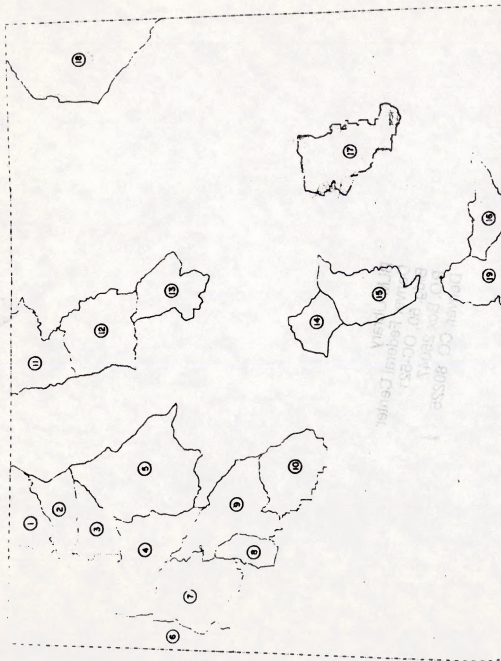


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# BIGHORN SHEEP

## HERD UNIT

## NUMBER

Clark's Fork.....	1
Trout Peak.....	2
Wapiti Ridge.....	3
Yount's Peak.....	4
Franc's Peak.....	5
Targhan.....	6
Jackson.....	7
Sheep Mountain.....	8
Whiskey Mountain.....	9
Temple Peaks.....	10
North Bighorn.....	11
Paintrock Creek.....	12
Barnum.....	13
Sweetwater.....	14
Ferrie.....	15
Douglas Creek.....	16
Laramie Peak.....	17
Black Hills.....	18
Encampment.....	19
Desolation Peak.....	20 (Map Unavailable)
Darby Peak.....	21 (Map Unavailable)
Dubois Badlands.....	22 (Map Unavailable)



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